THE

CYCLOPÆDIA;

OR,

Universal Dictionary

OF

ARTS, SCIENCES, AND LITERATURE.

PLATES. VOL. III.

HYDRAULICS —— NAVAL ARCHITECTURE.

Printed by A. Strahan,
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PLATES

THE

CYCLOPÆDIA;

OR,

UNIVERSAL DICTIONARY

OF

Arts, Sciences, and Literature.

BY

ABRAHAM REES, D.D. F.R.S. F.L.S. *S. Amer. Soc.*

WITH THE ASSISTANCE OF

EMINENT PROFESSIONAL GENTLEMEN.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS,

BY THE MOST DISTINGUISHED ARTISTS.

PLATES. VOL. III.

HYDRAULICS — NAVAL ARCHITECTURE.

LONDON:

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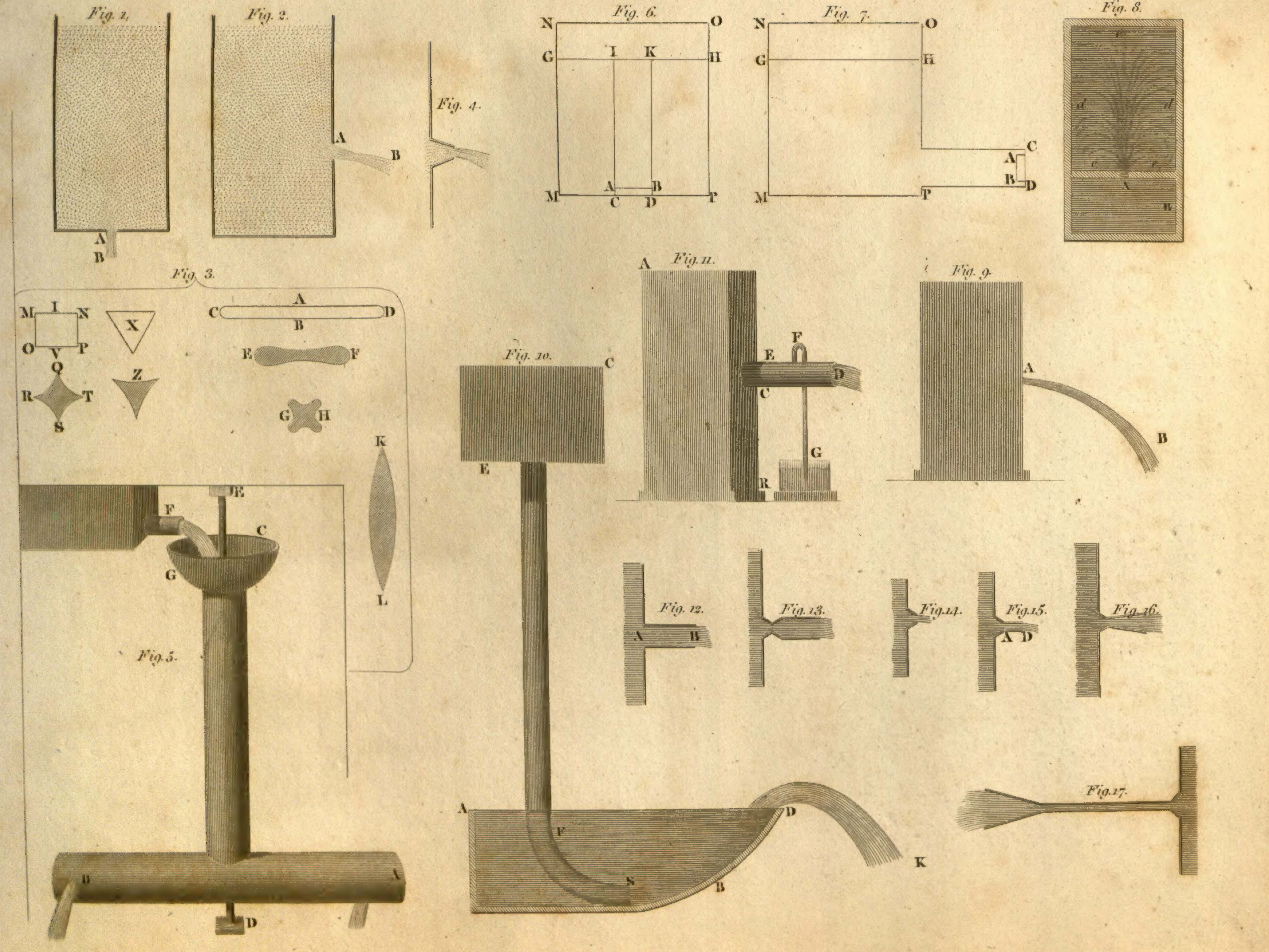
F.C. AND J. RIVINGTON, A. STRAHAN, PAYNE AND FOSS, SCATCHERD AND LETTERMAN, J. CUTHELL, CLARKE AND SONS, LACKINGTON HUGHES HARDING MAVOR AND JONES, J. AND A. ARCH, CADELL AND DAVIES, S. BAGSTER, J. MAWMAN, BLACK KINGSBURY PARBURY AND ALLEN, R. SCHOLEY, J. BOOTH, J. BOOKER, SUTTABY EVANCE AND FOX, BALDWIN CRADOCK AND JOY, SHERWOOD NEELY AND JONES, OGLE DUNCAN AND CO., R. SAUNDERS, HURST ROBINSON AND CO., J. DICKINSON, J. PATERSON, E. WHITESIDE, WILSON AND SONS, AND BRODIE AND DOWDING.

1820.

MISSOURI
BOTANICAL
GARDEN.



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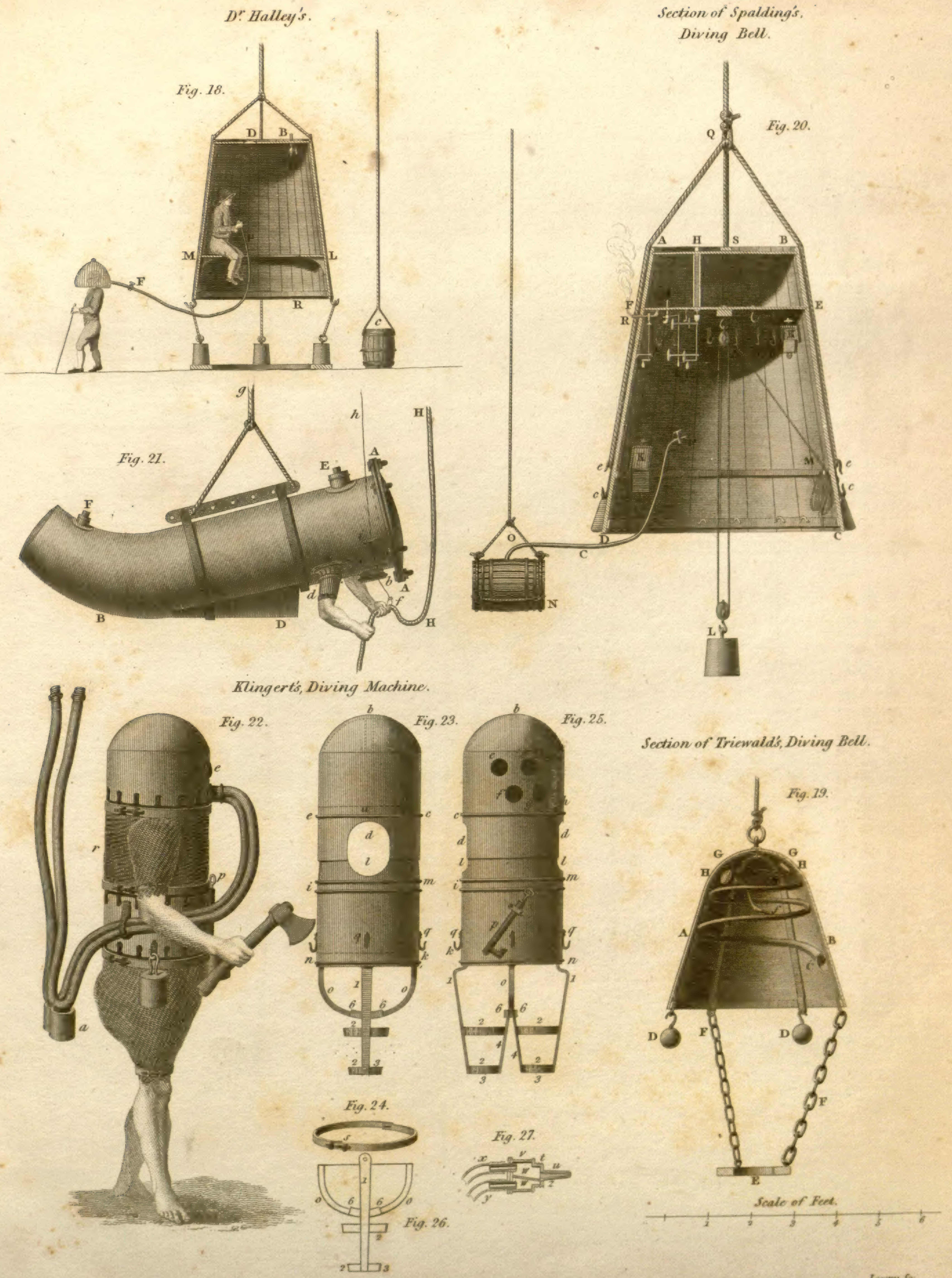
DIVING BELL.



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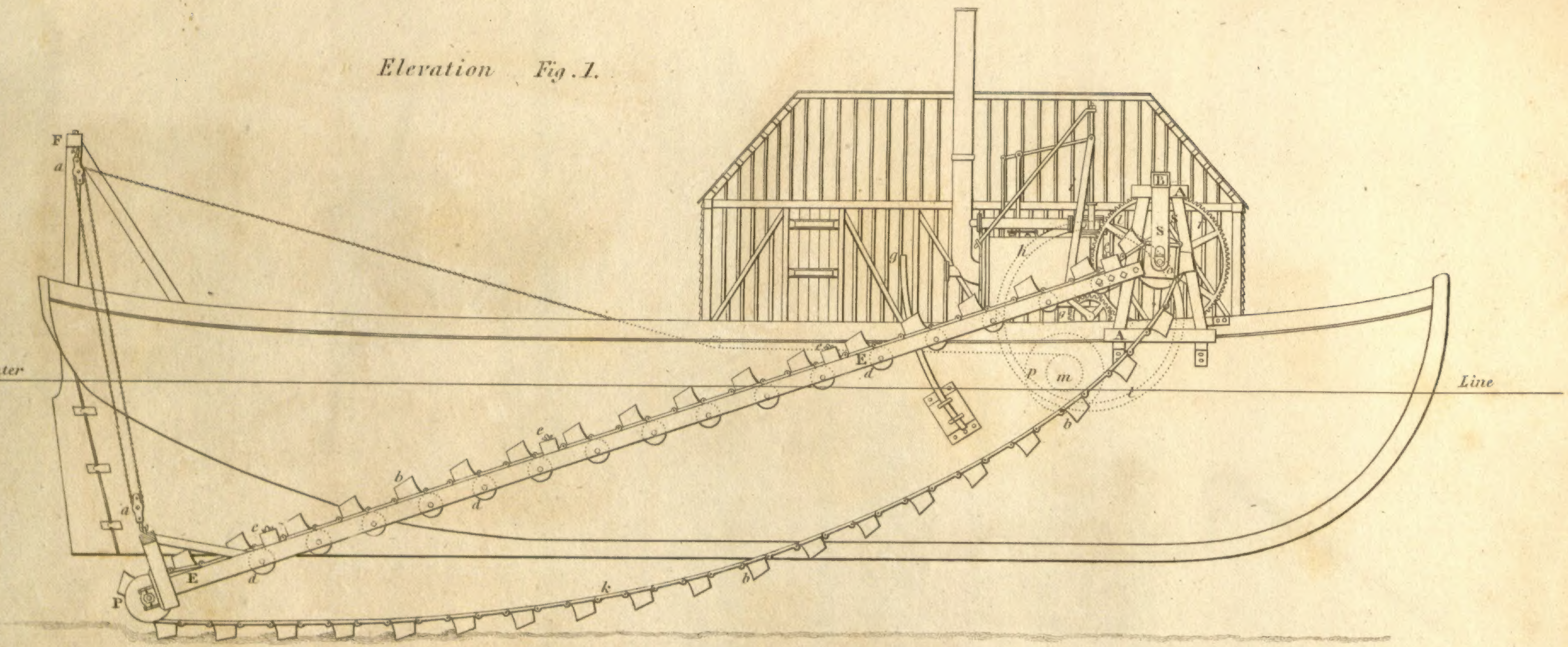
Lowry Sc.

Dredging machine used on the River Thames to deepen the channel.

Elevation Fig. 1.



Plan Fig. 2.

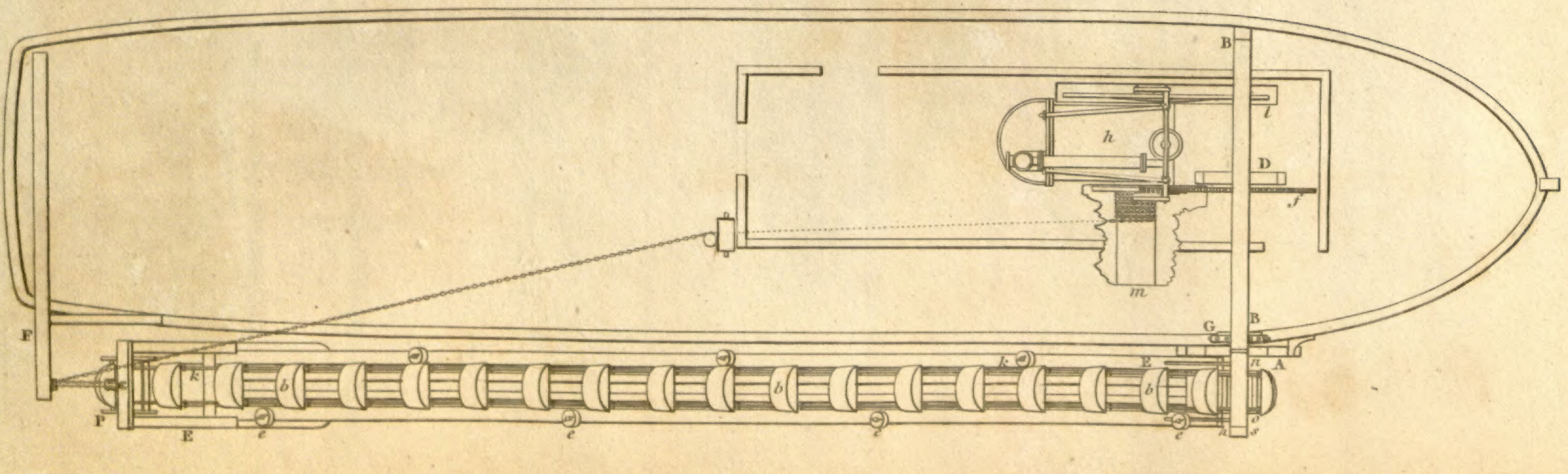


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Fig. 9.

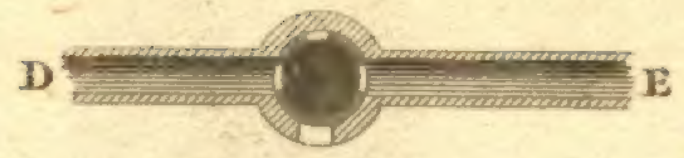


Fig. 3.
EDDY.

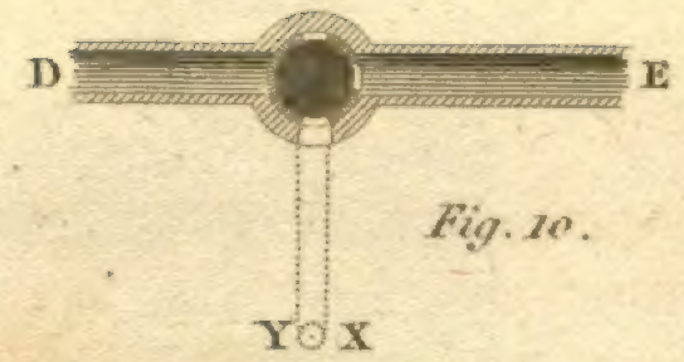


Fig. 10.

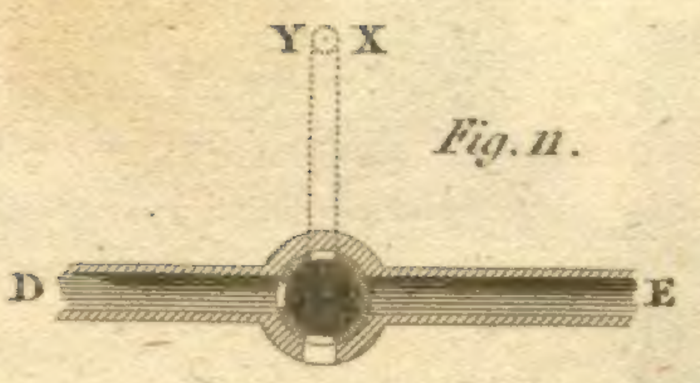


Fig. 11.

Fig. 4.

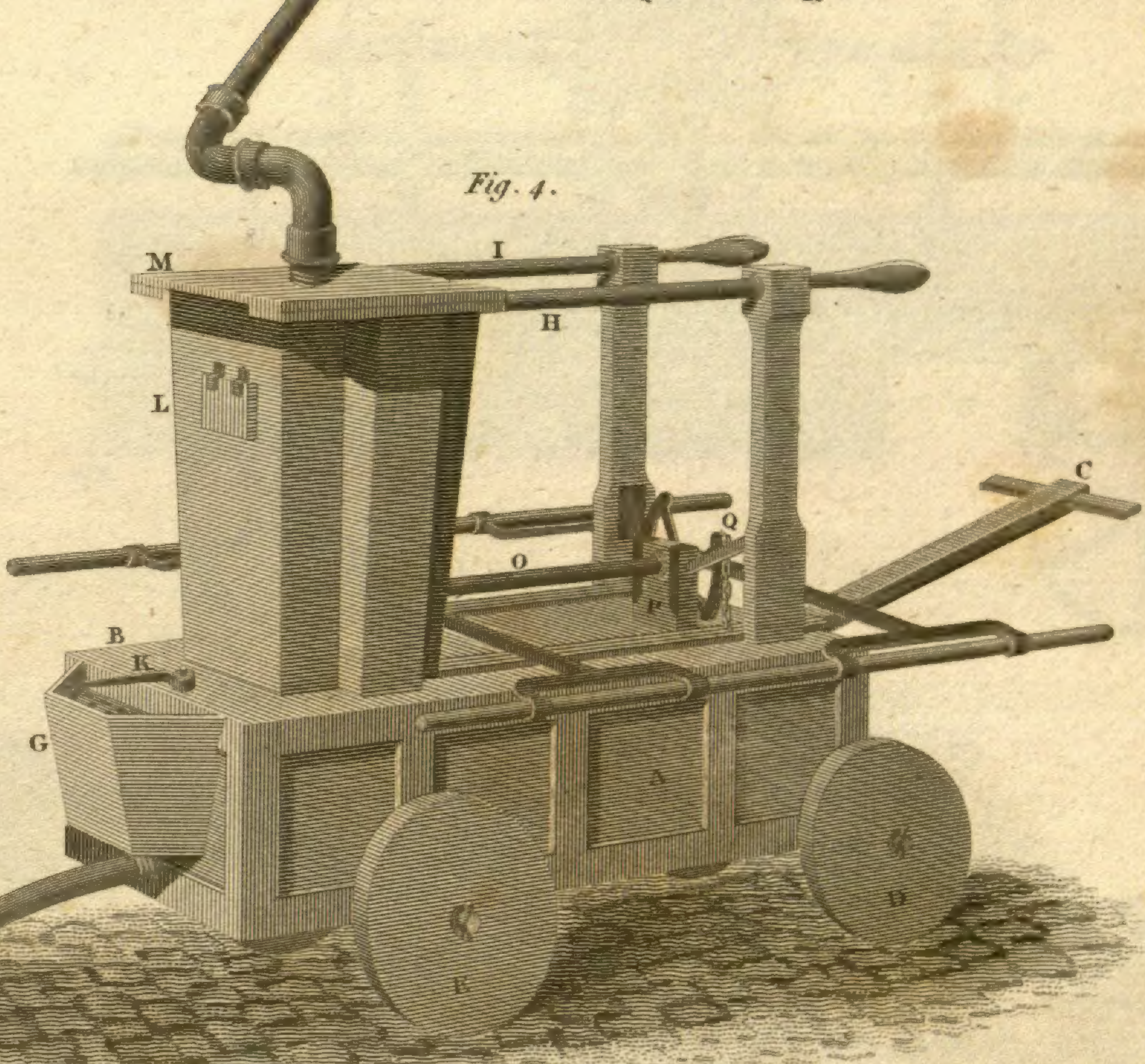


Fig. 7.

Mr. Newsham's, Fire Engine.

Fig. 6.

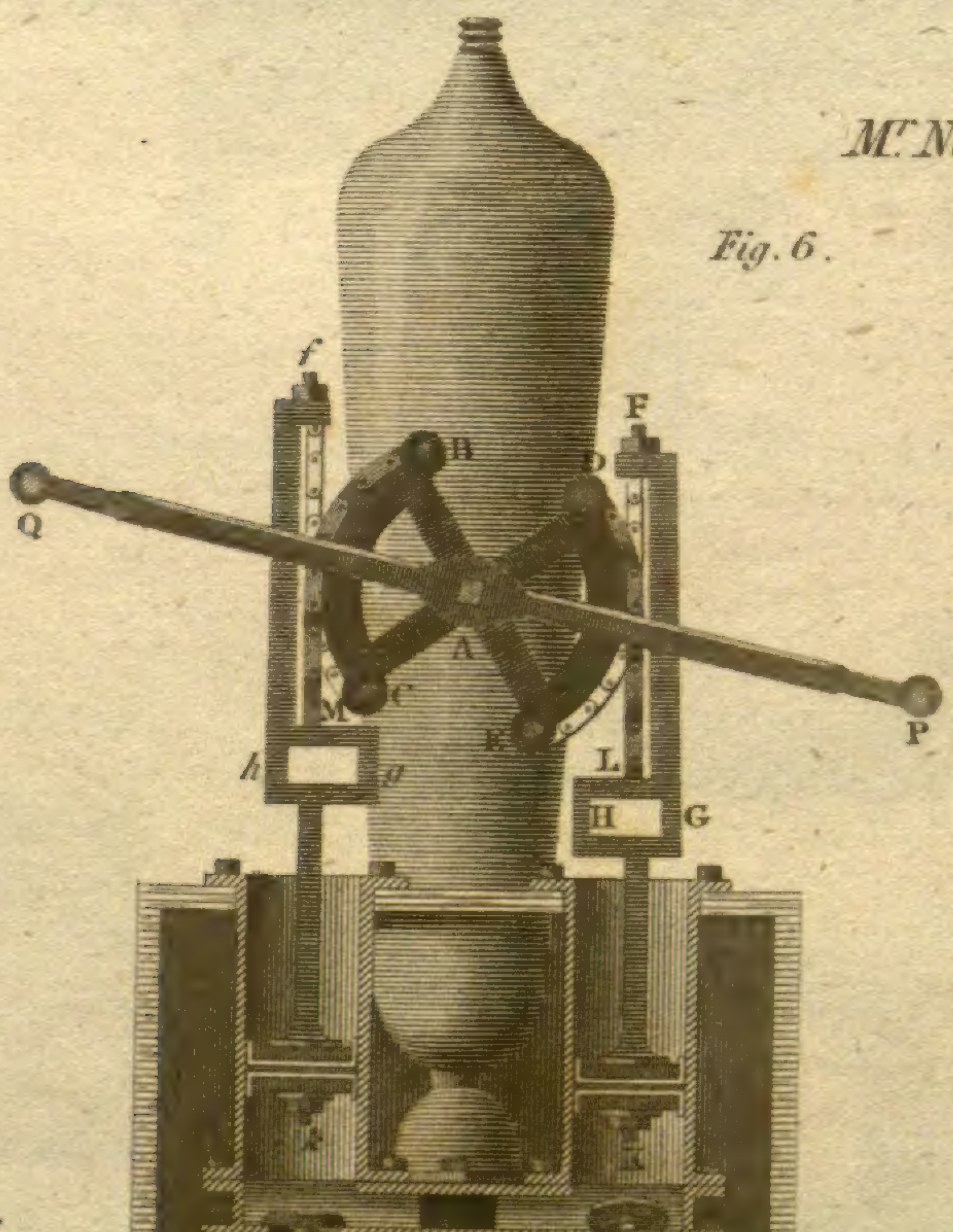
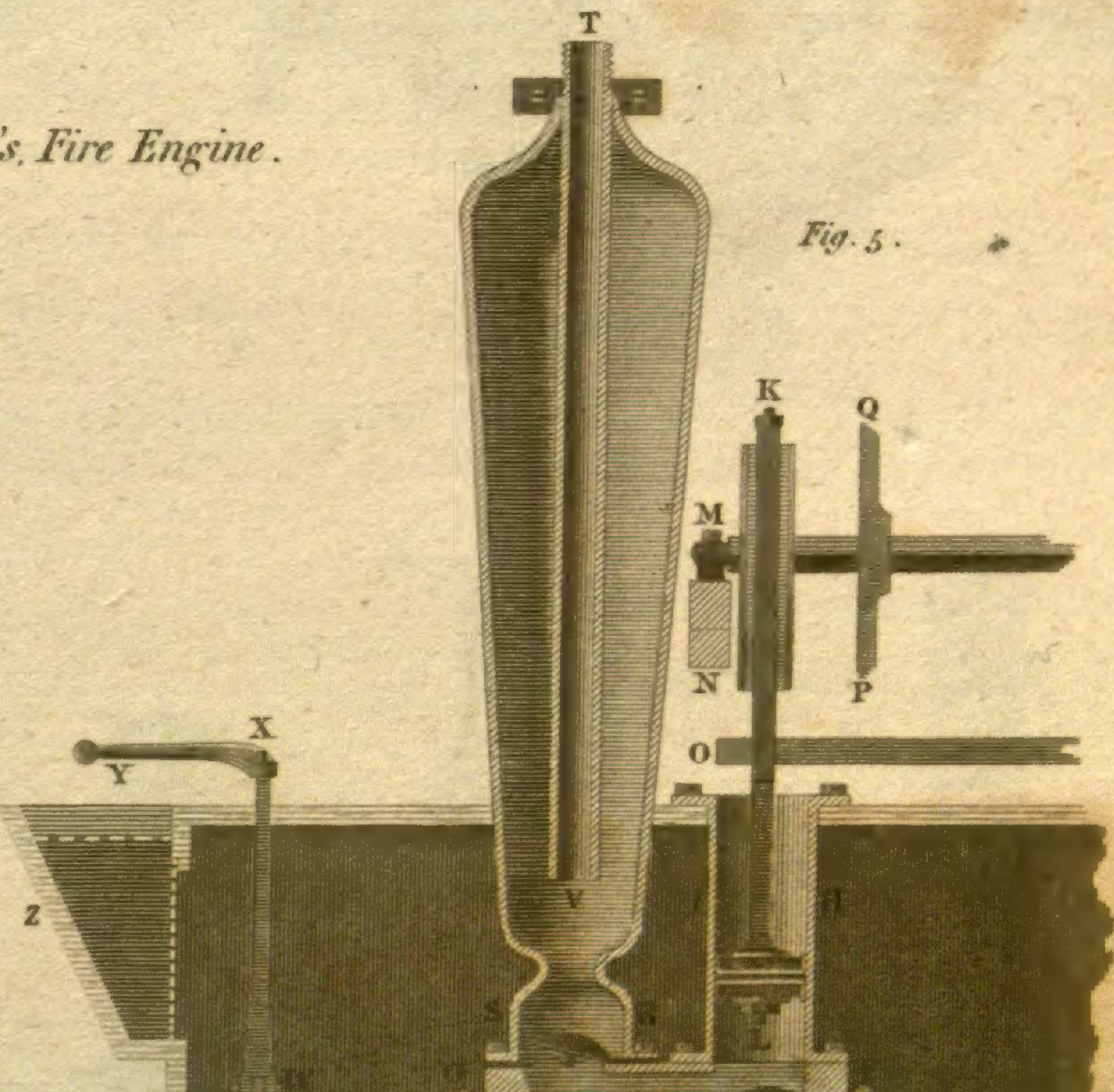


Fig. 5.



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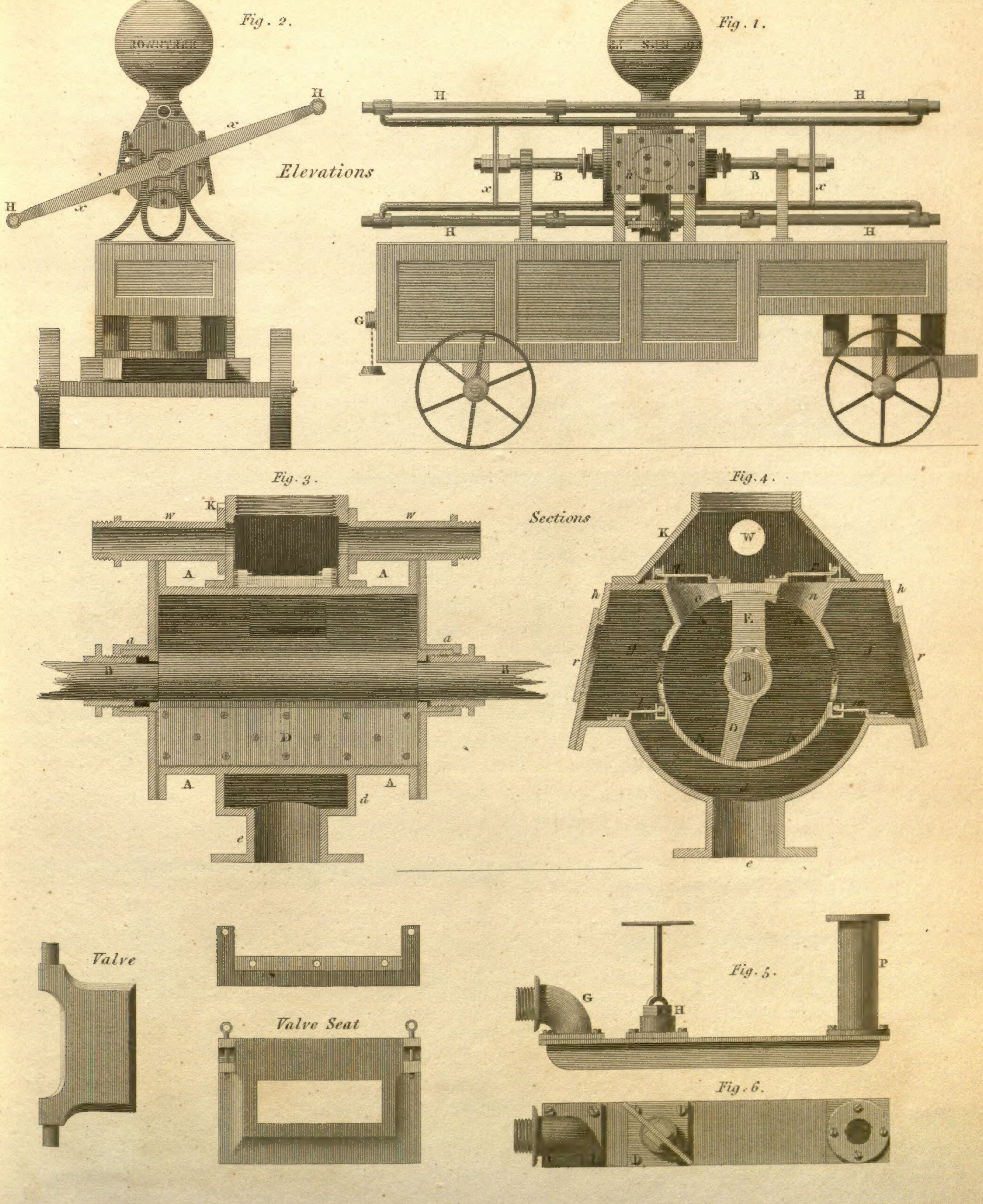
Fire Engine by Rowntree.



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FLUIDS.

Fig. 1.

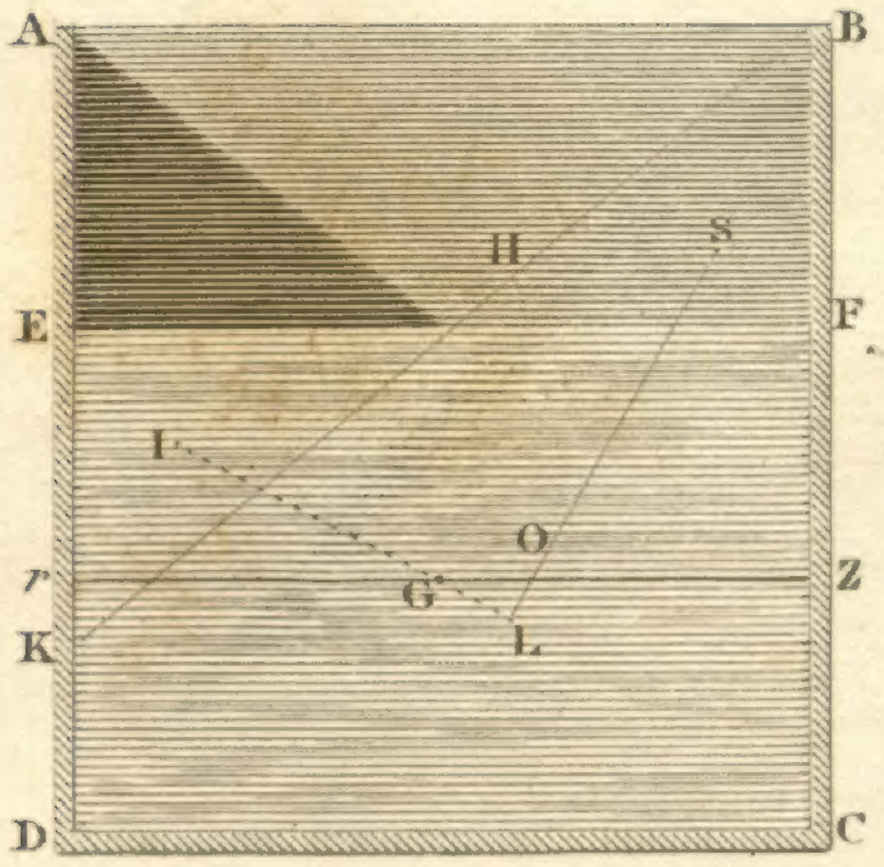


Fig. 2.

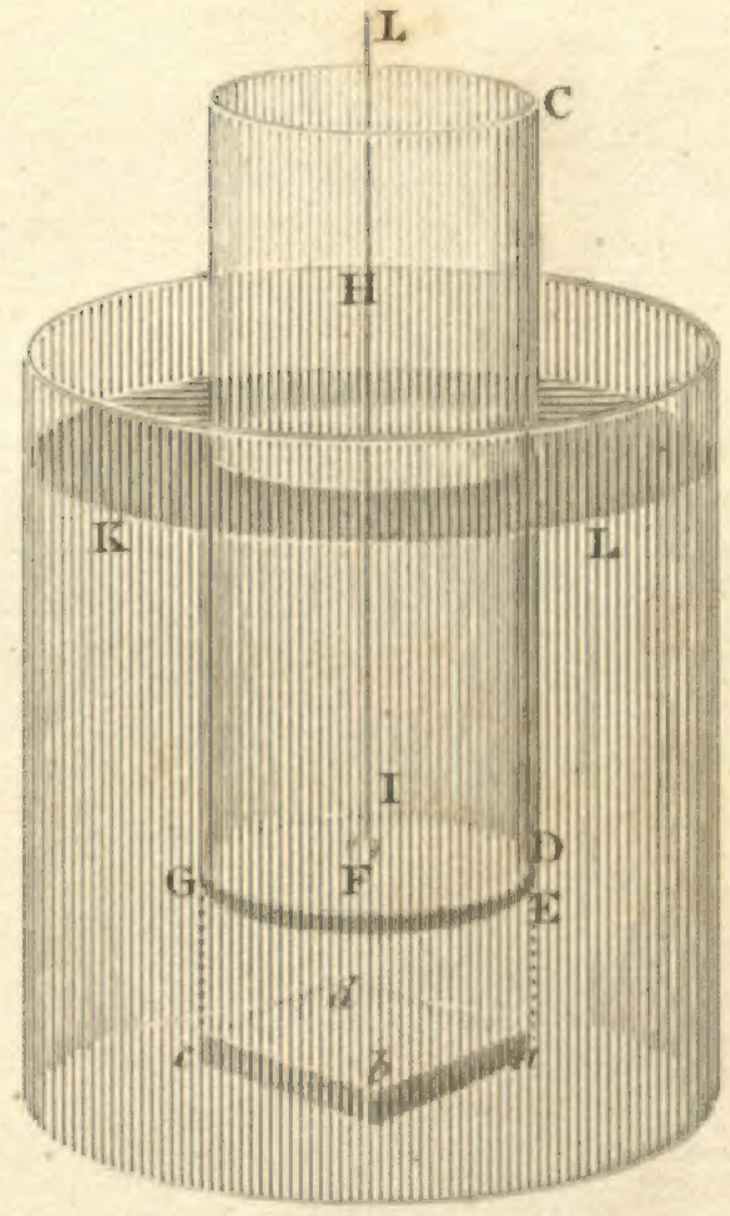


Fig. 3.

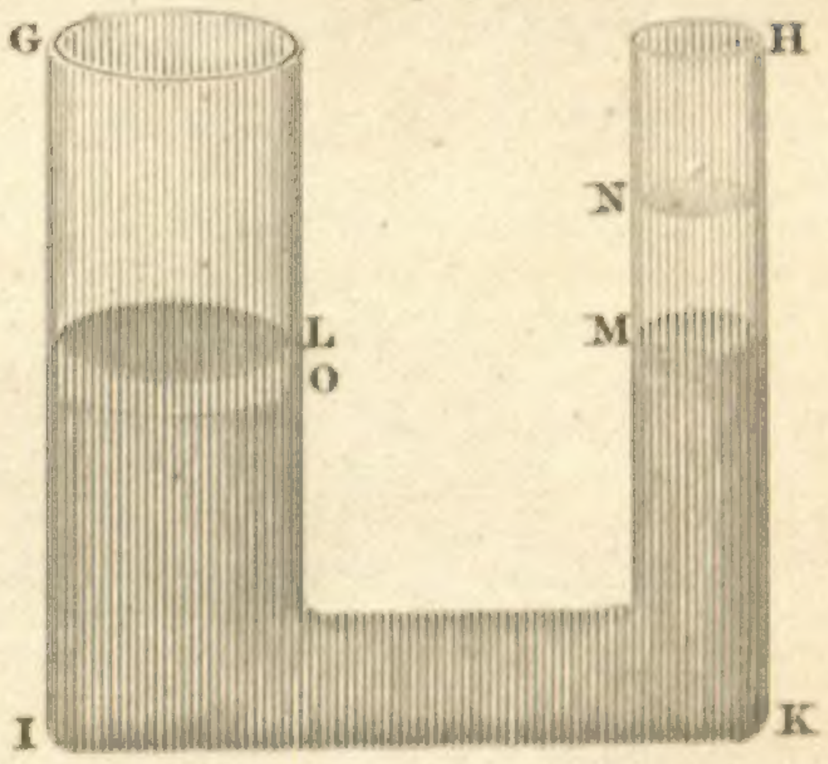


Fig. 4.

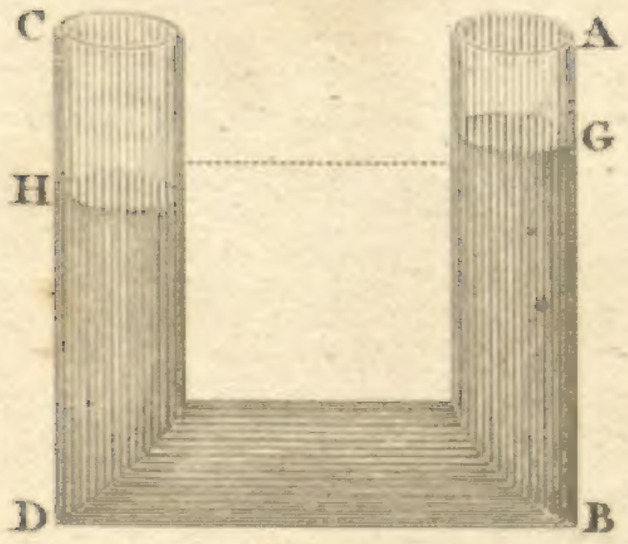


Fig. 8.

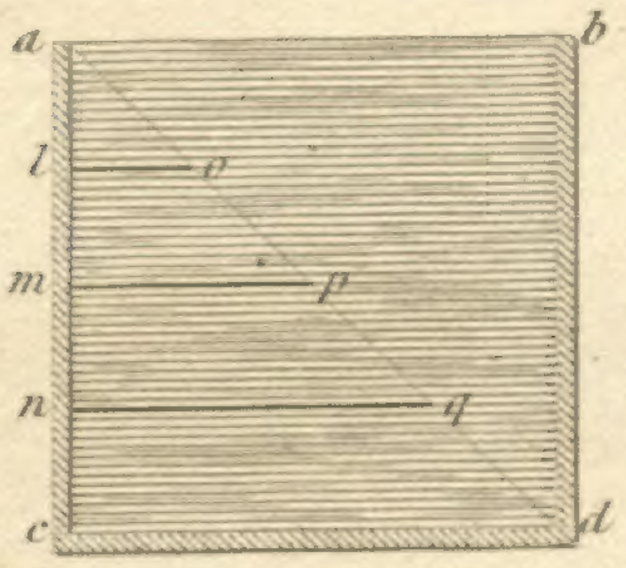


Fig. 5.

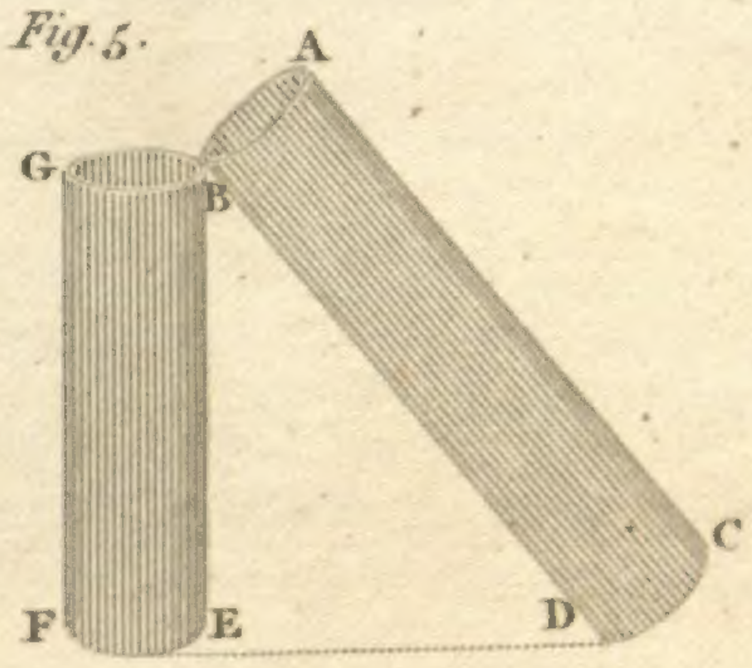


Fig. 6.

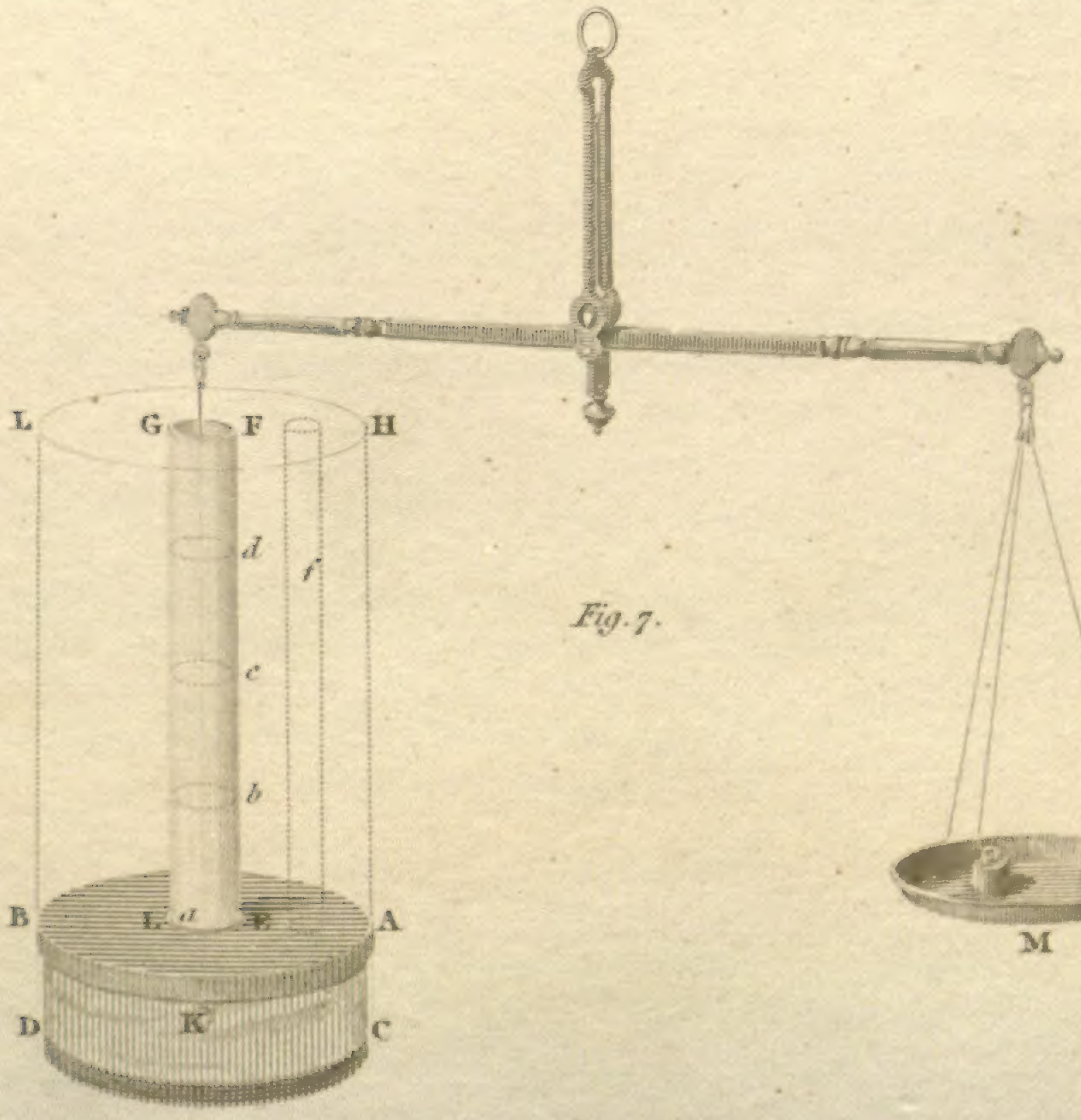
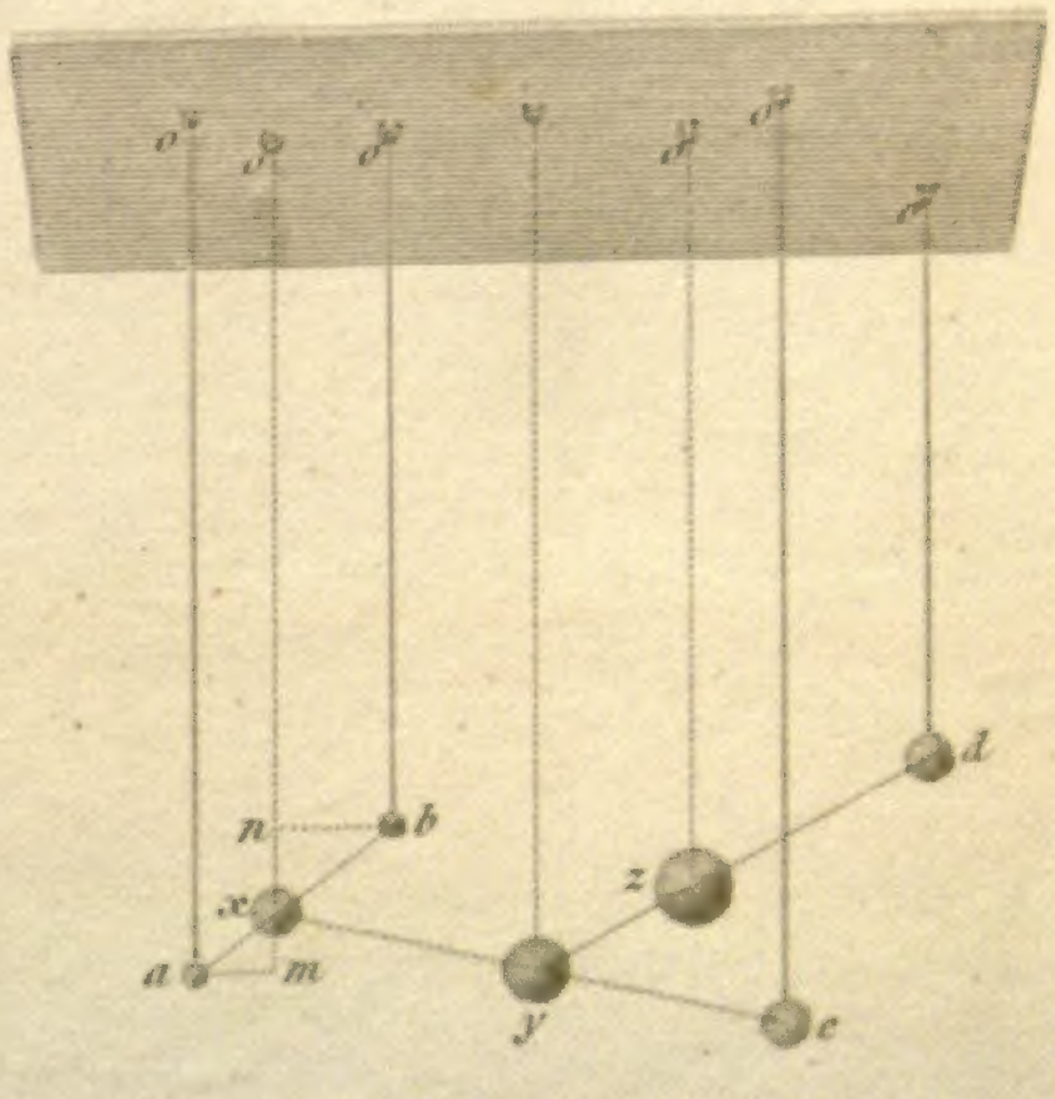


Fig. 7.

Fig. 9.



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HYDRAULICS.

FLUIDS.

Fig. 1.

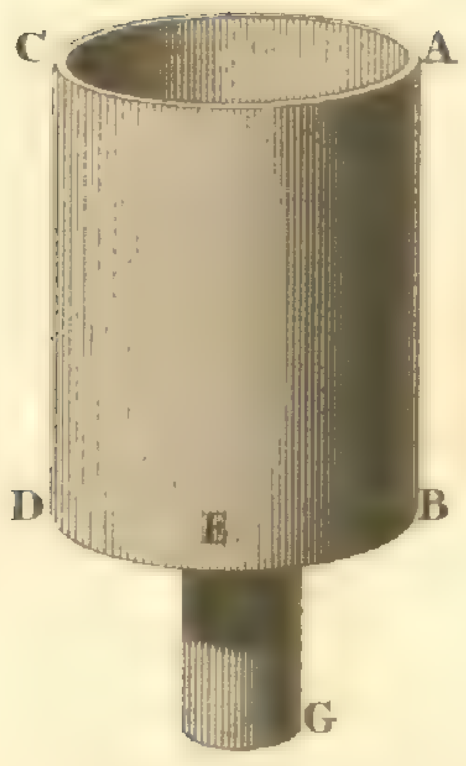


Fig. 2.

Fig. 3.

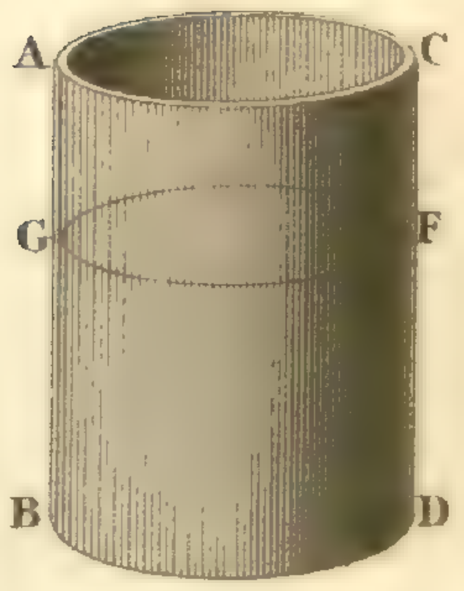


Fig. 4.

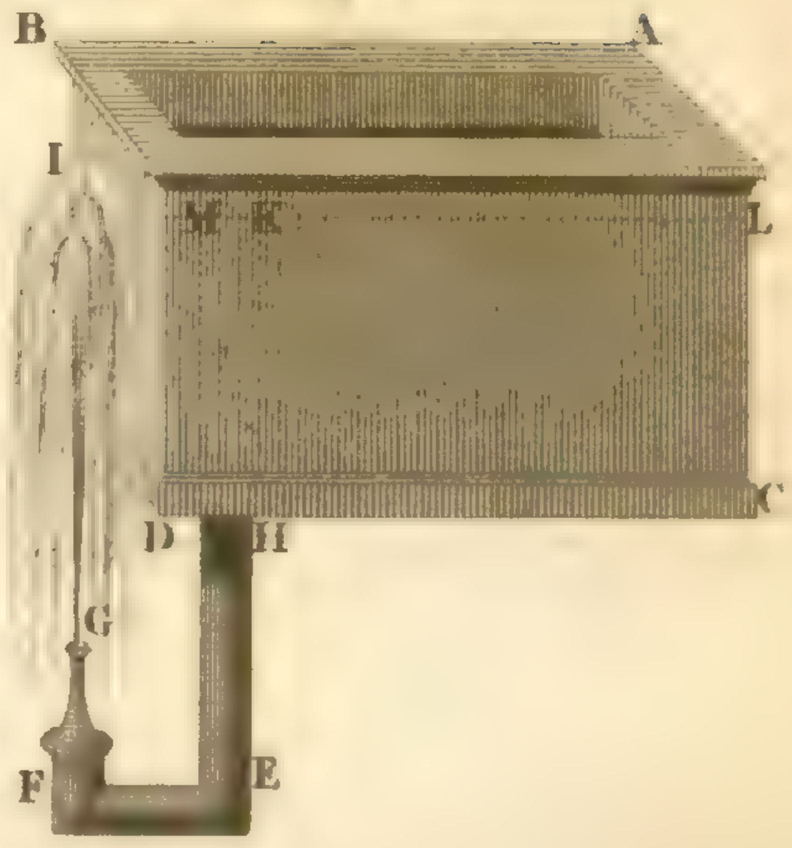


Fig. 5.

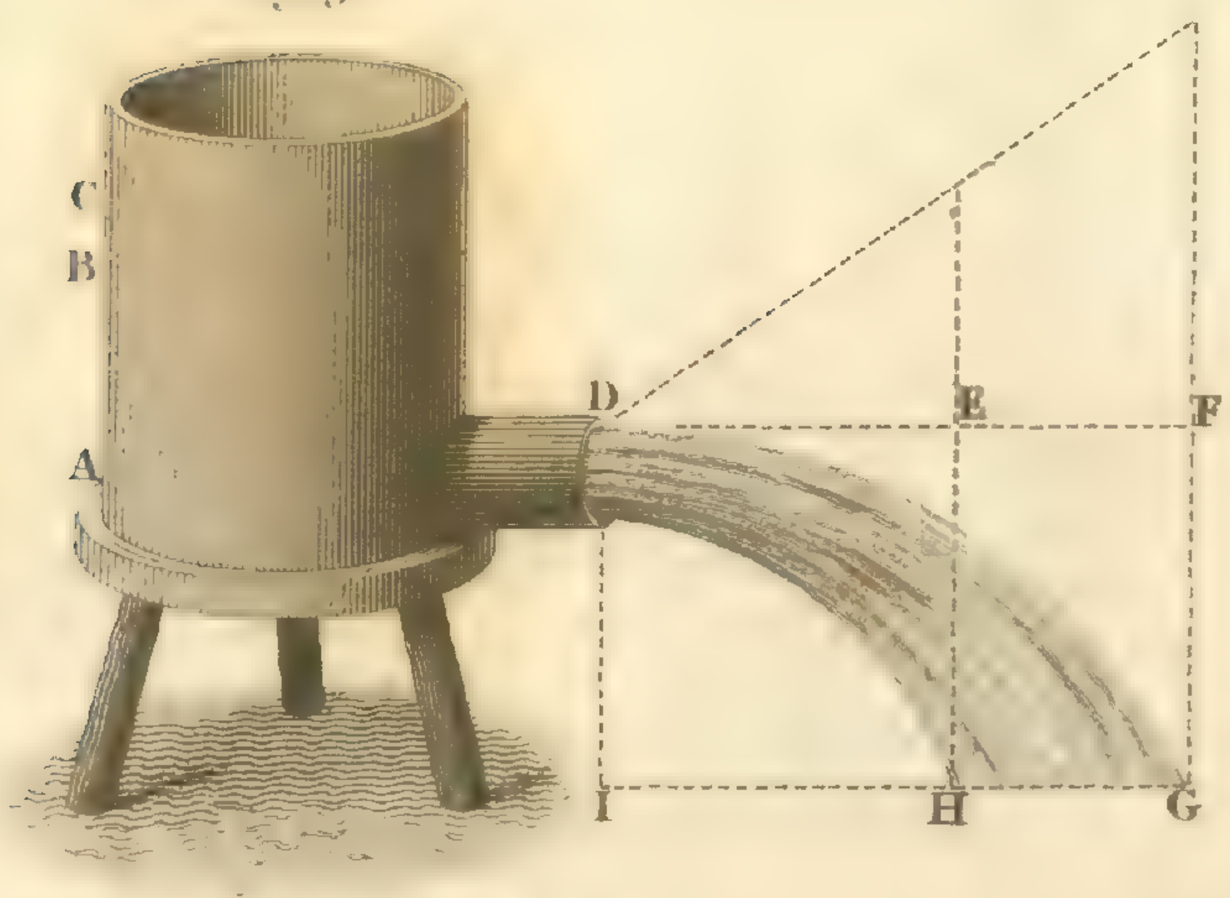
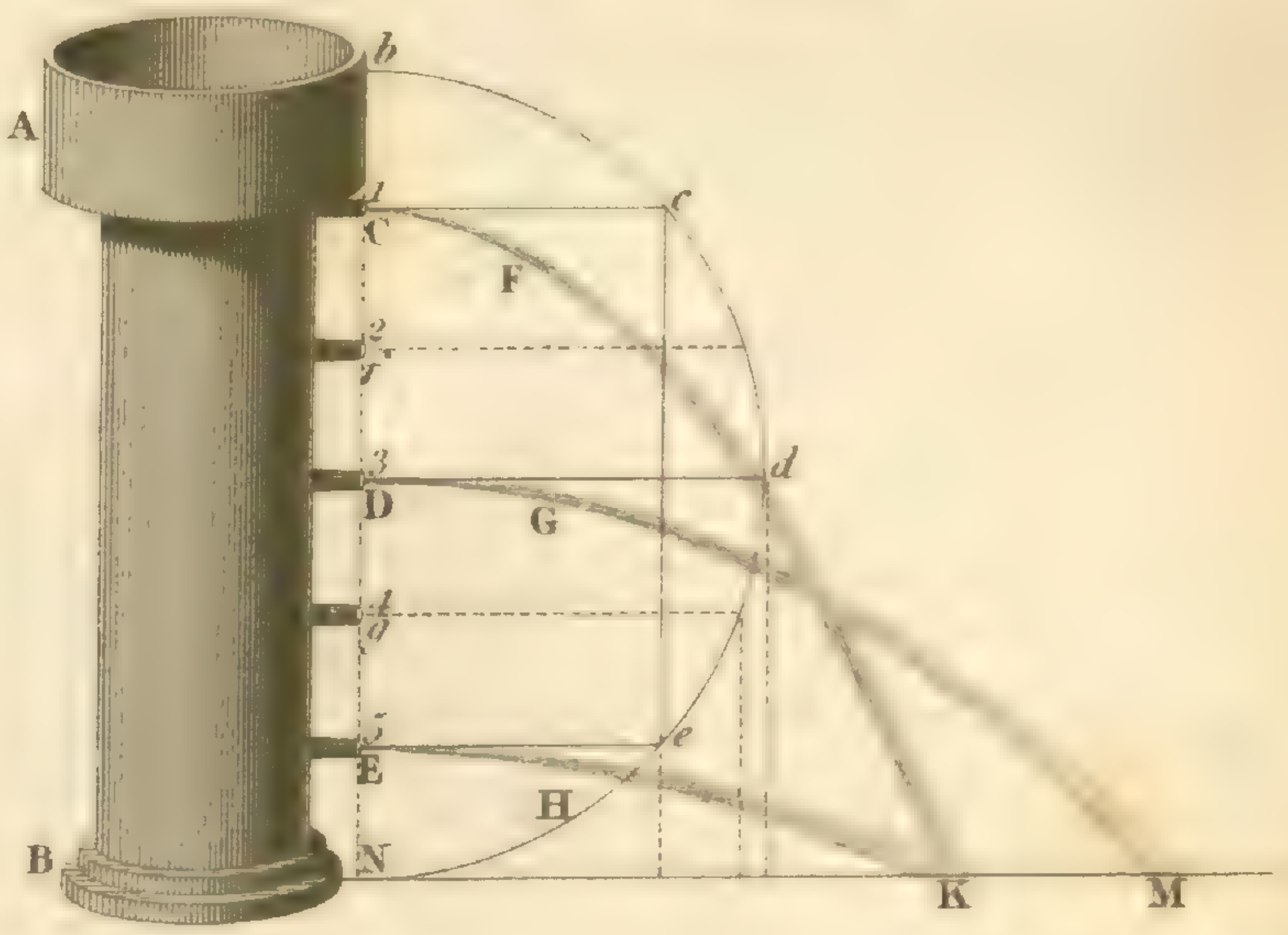


Fig. 6.



FOUNTAIN

Fig. 7.

Fig. 8.

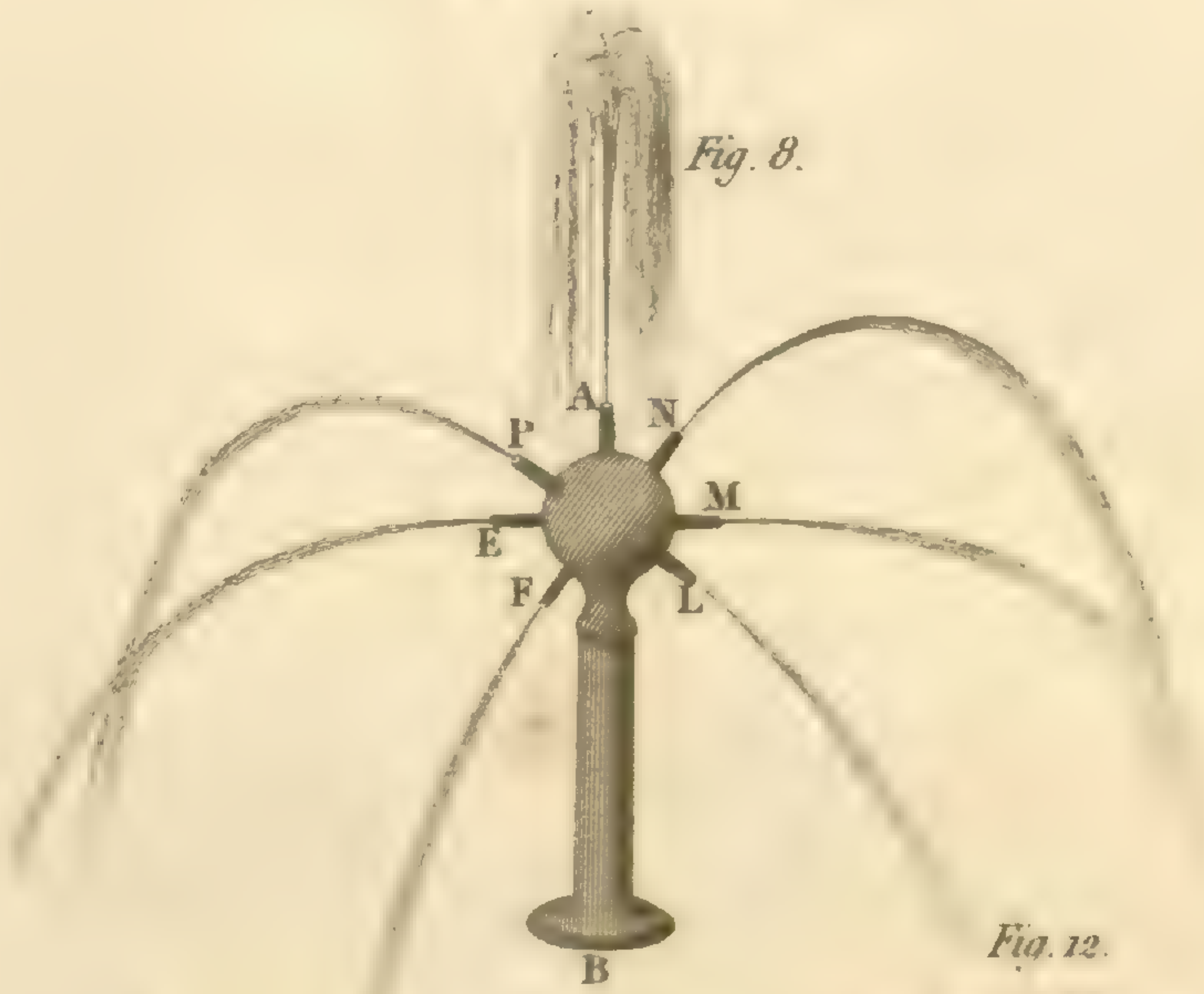


Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

Fig. 13.

... delin.

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HYDRAULICS

FOUNTAINS.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

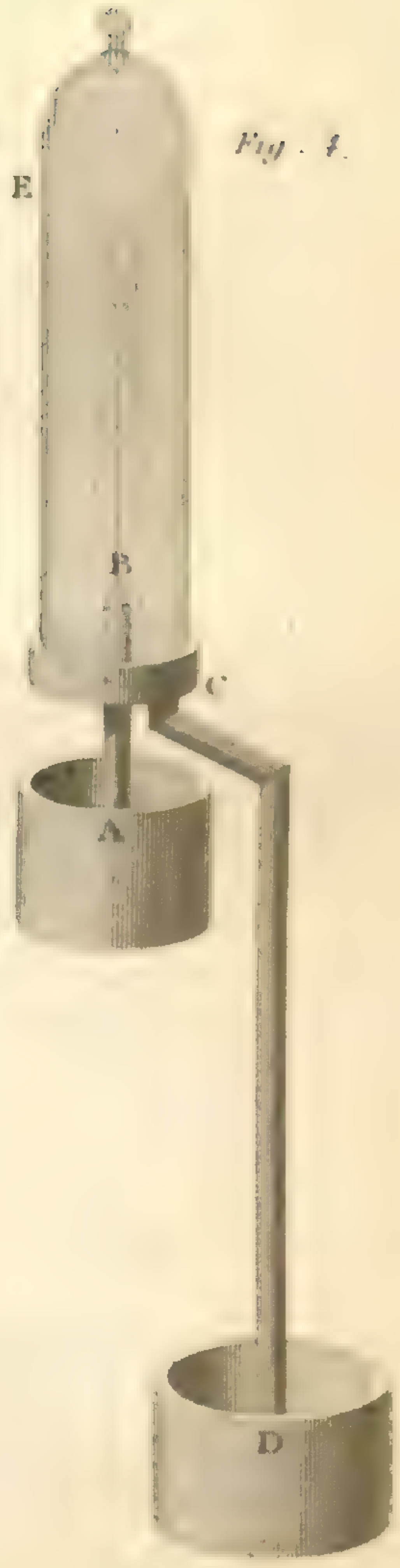


Fig. 5.

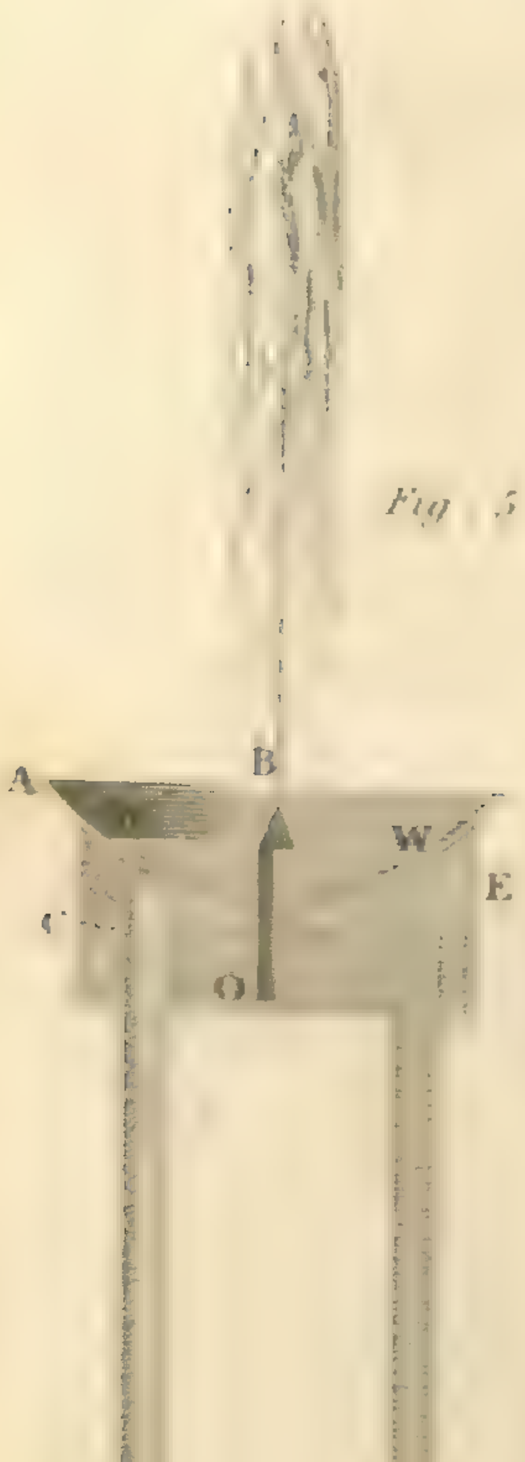


Fig. 6.

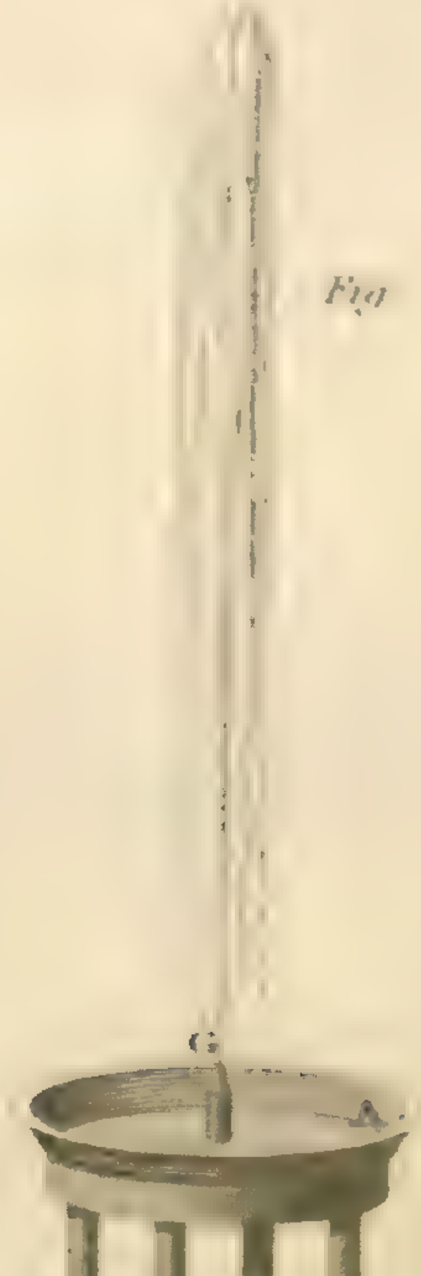


Fig. 7.

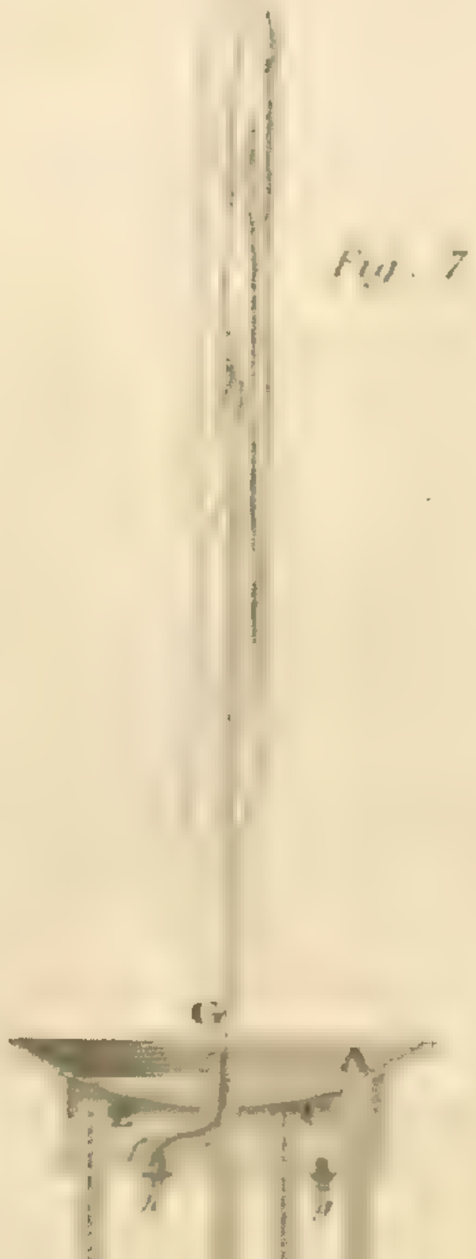
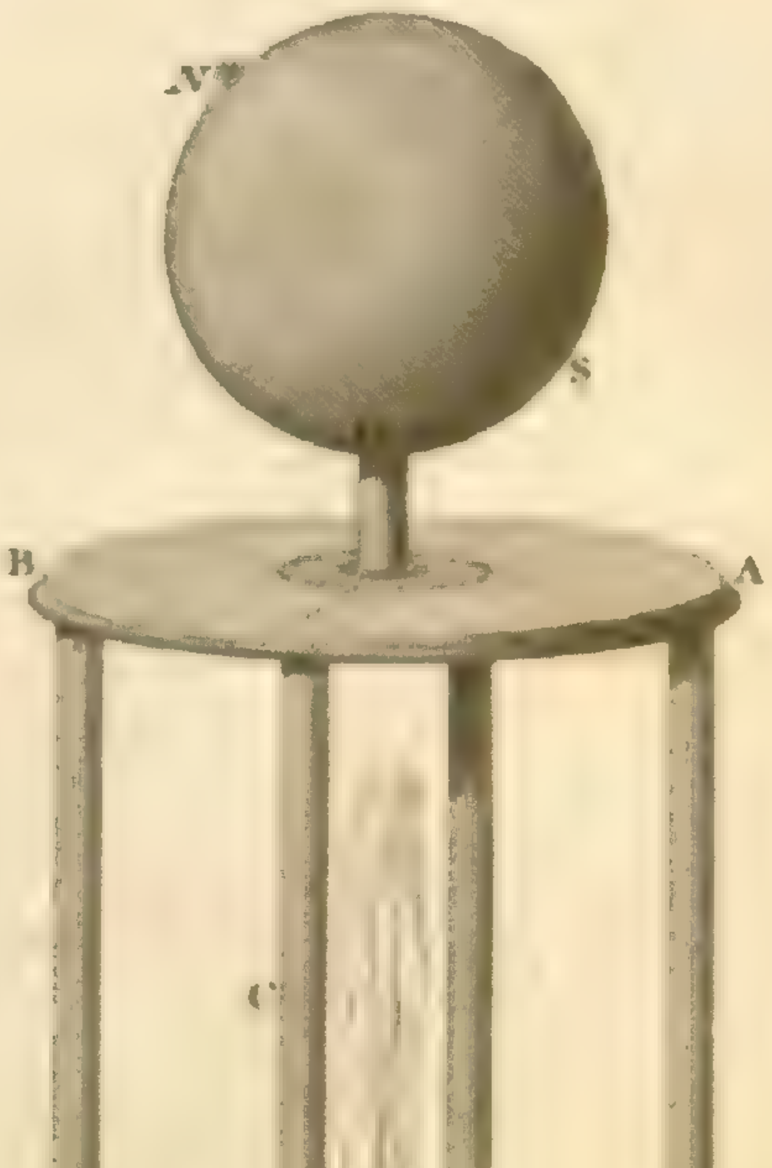


Fig. 8.



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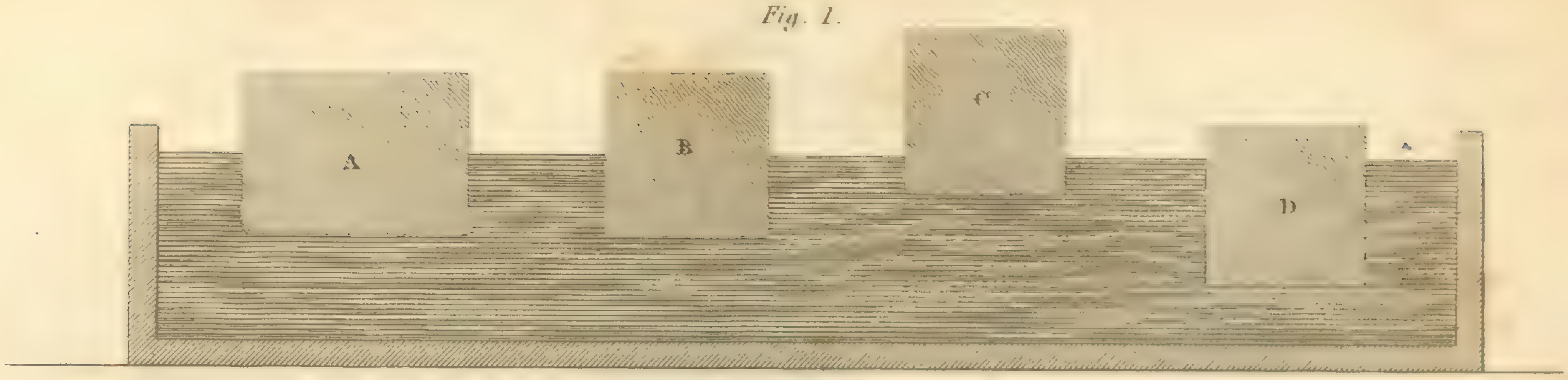
HYDRAULICS.

FLOATING.

Fig. 1.



HIERO'S CROWN.

Fig. 3.

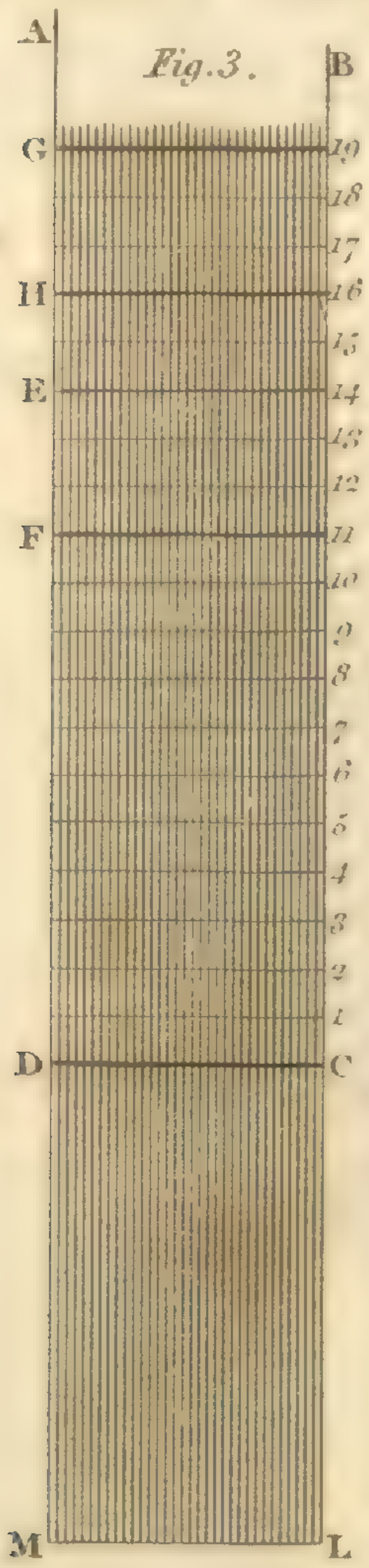


Fig. 2.

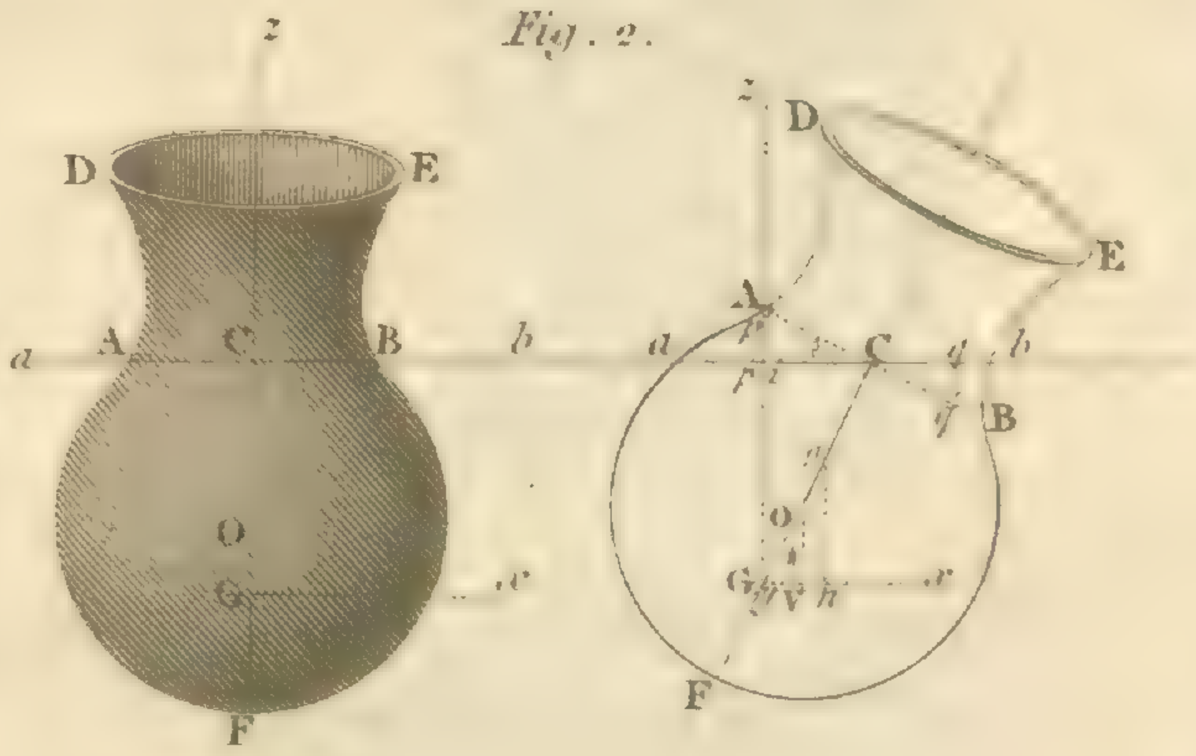


Fig. 4.

HYDROMANCY.

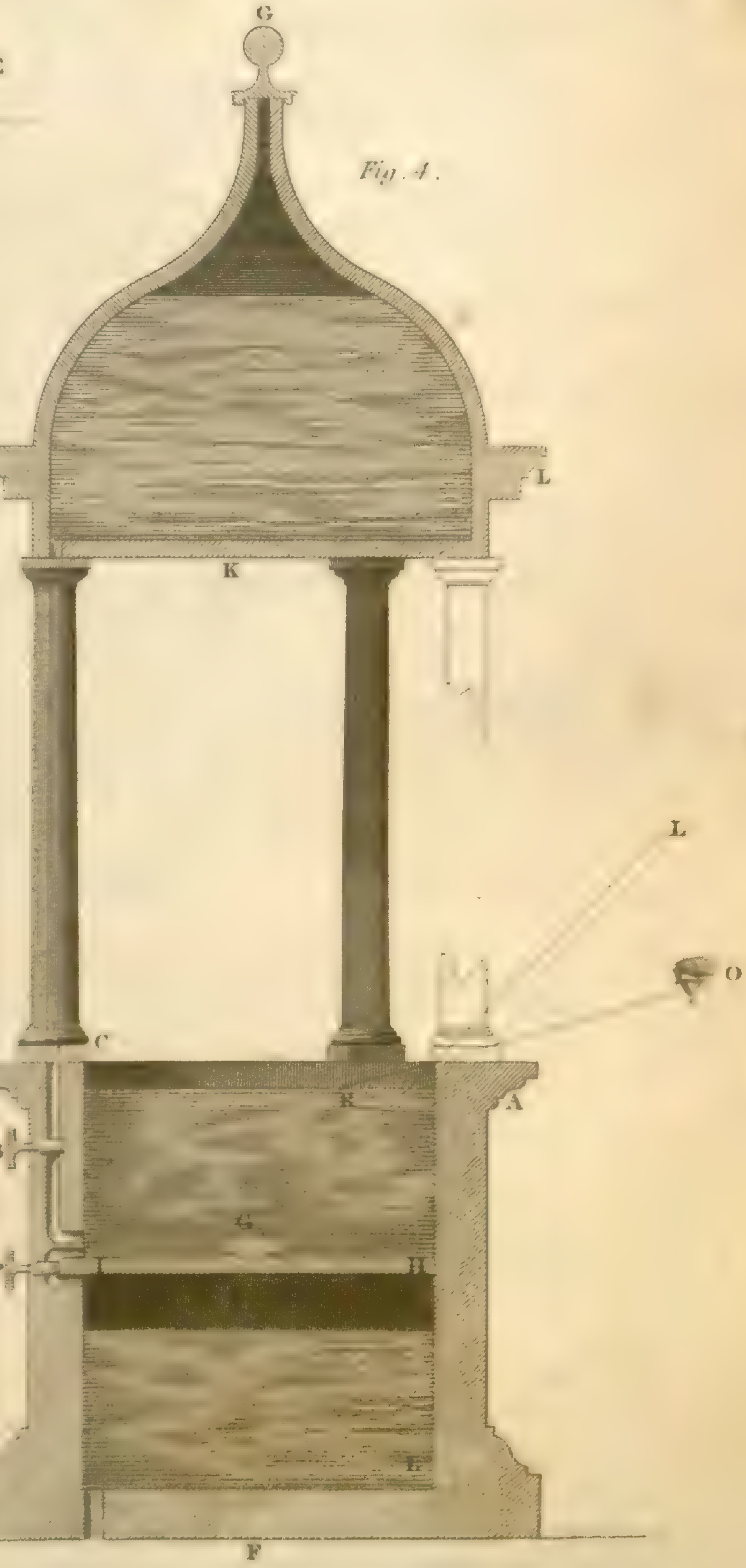
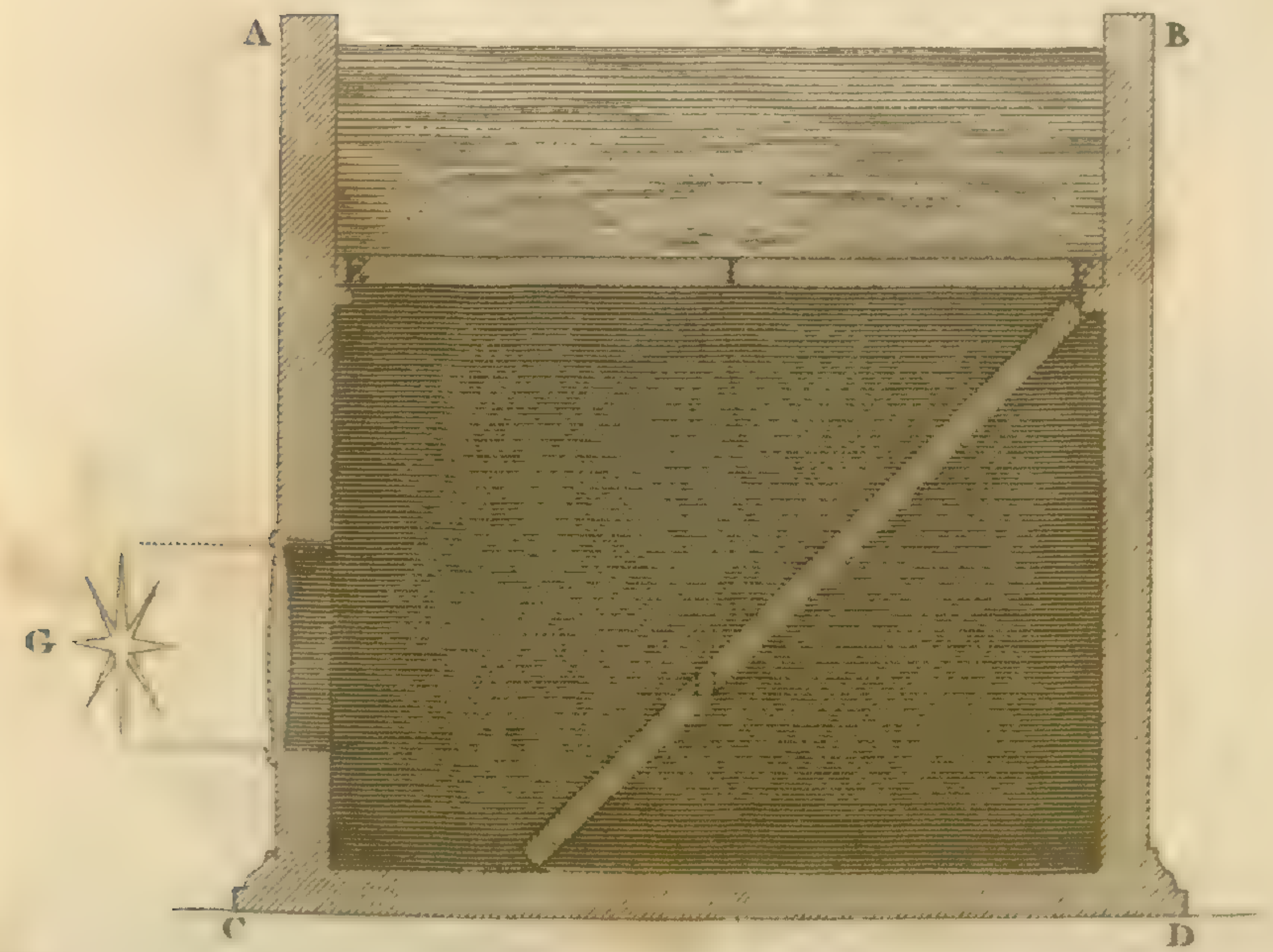


Fig. 5.



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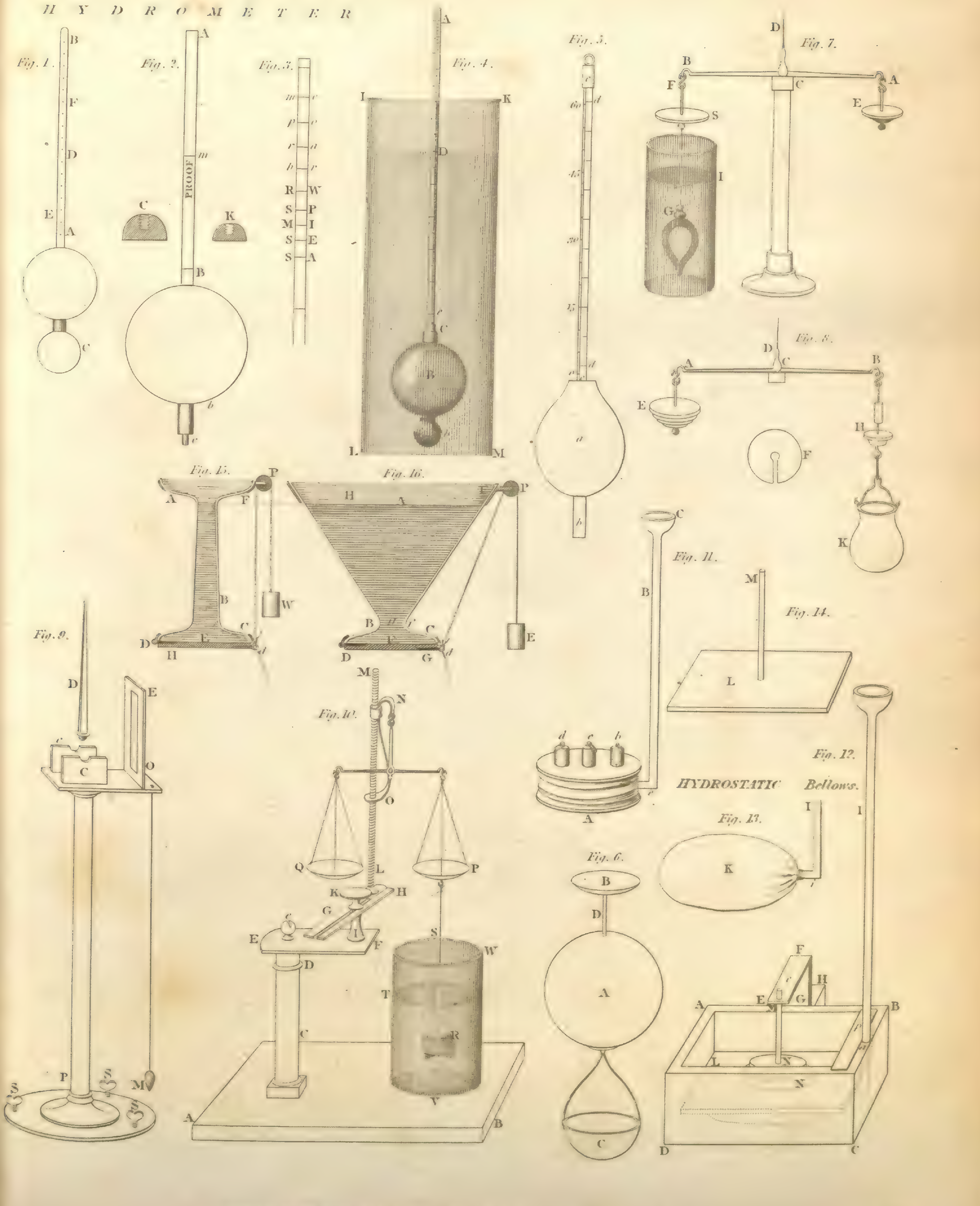
HYDRAULICS.

HYDROMETER &c.



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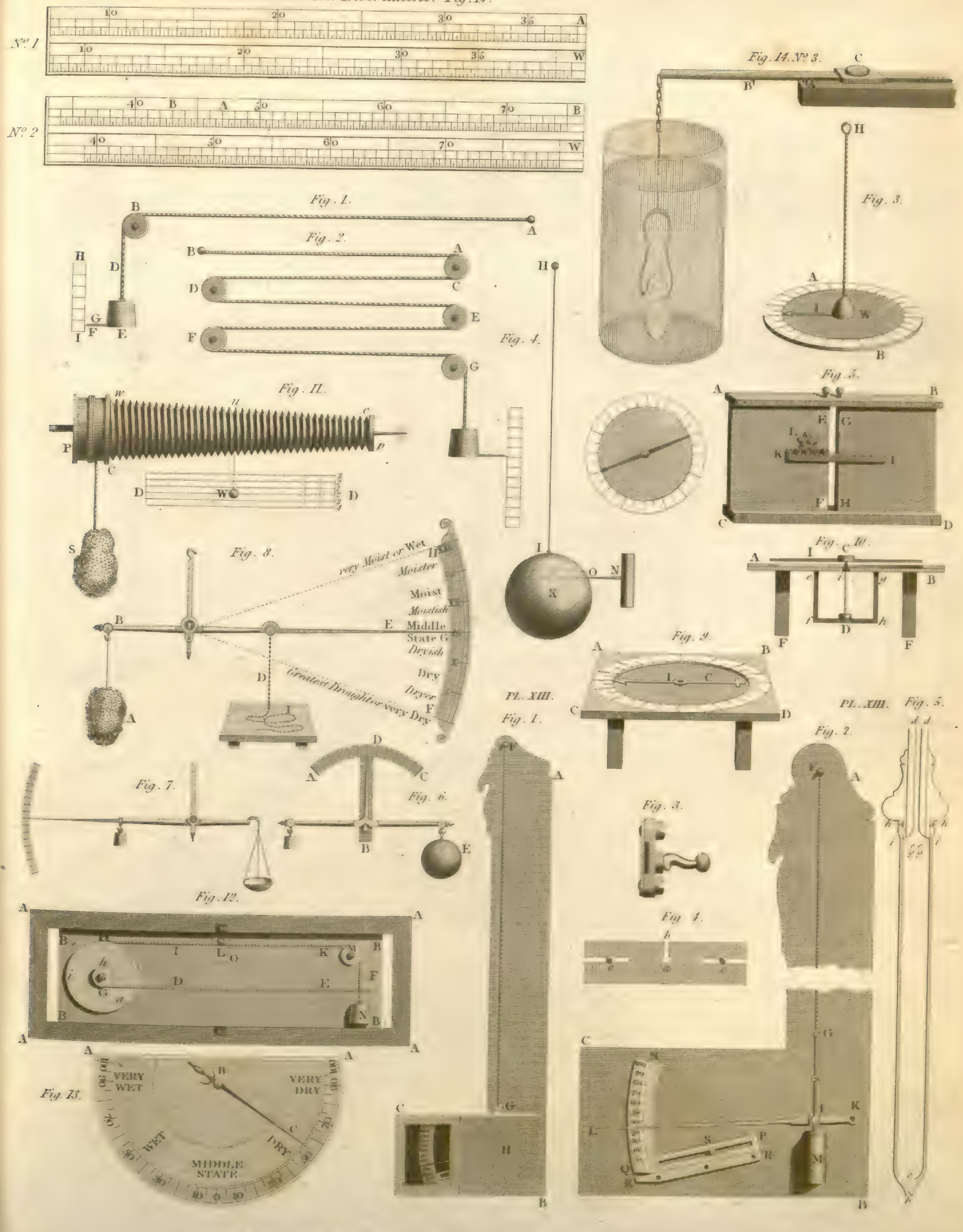
Lowry S.

HYGROMETER.

Bradford's HYDROSTATICAL Instrument: Fig. 14.



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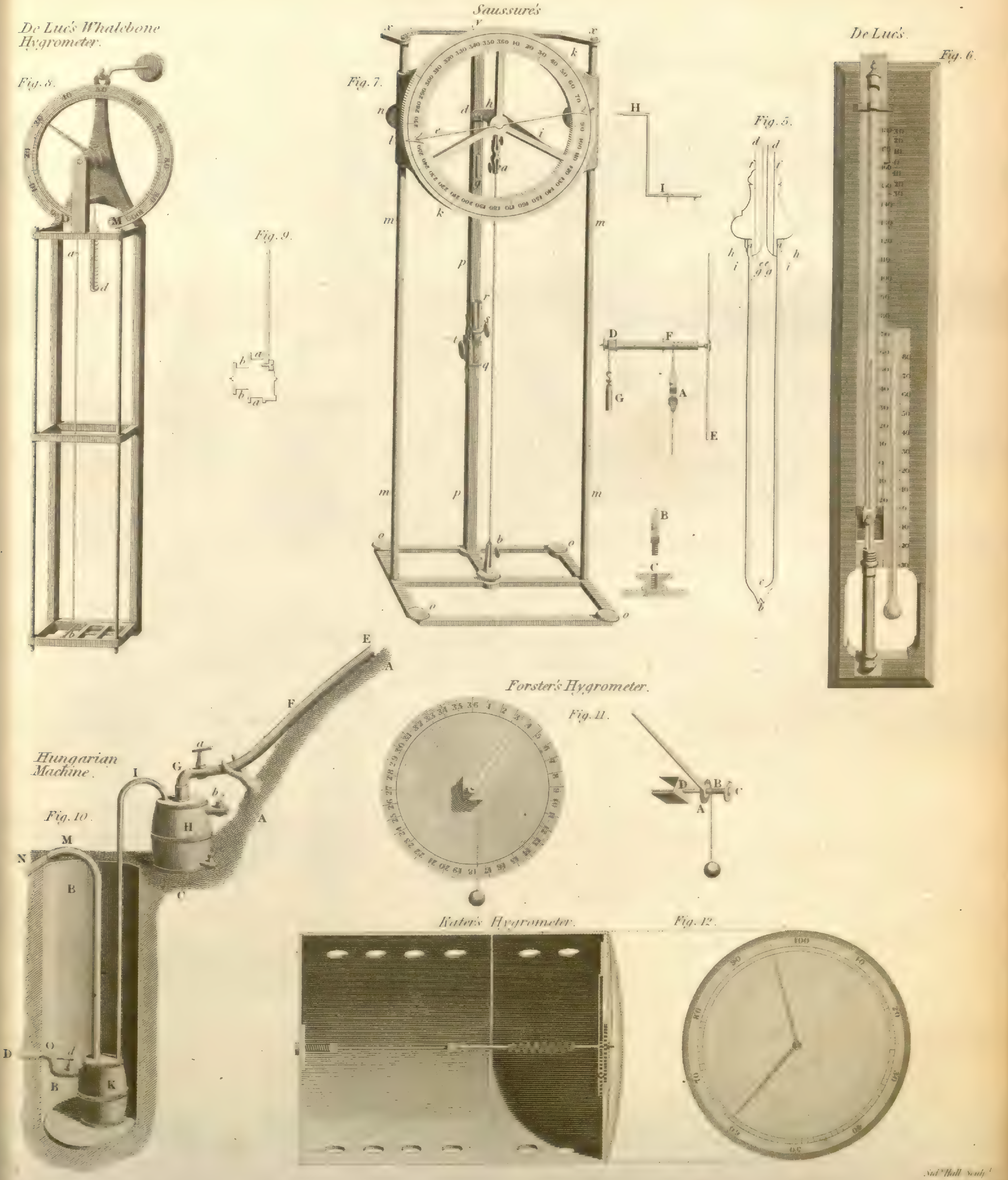
Lowry S.

HYGROMETER



Sid^y Hall Sculp^t

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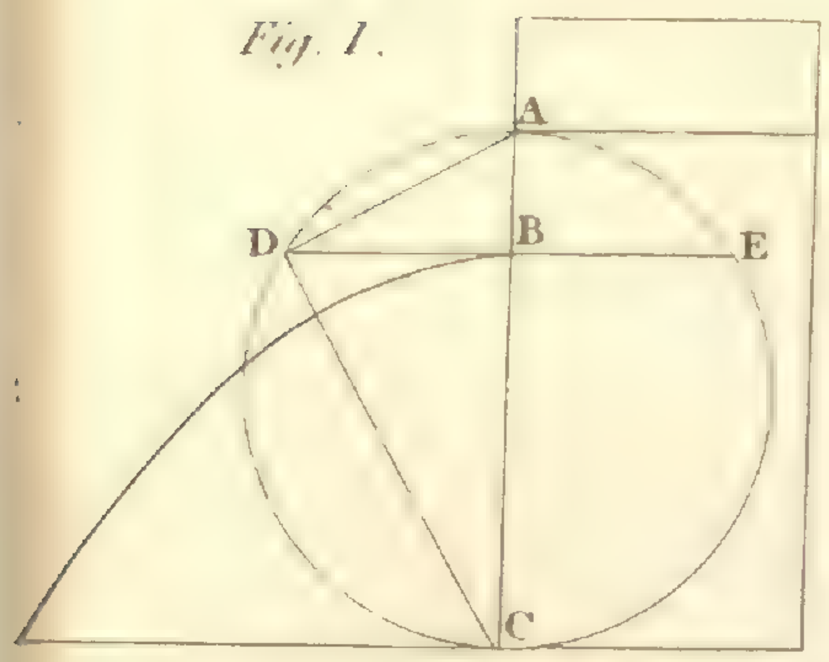
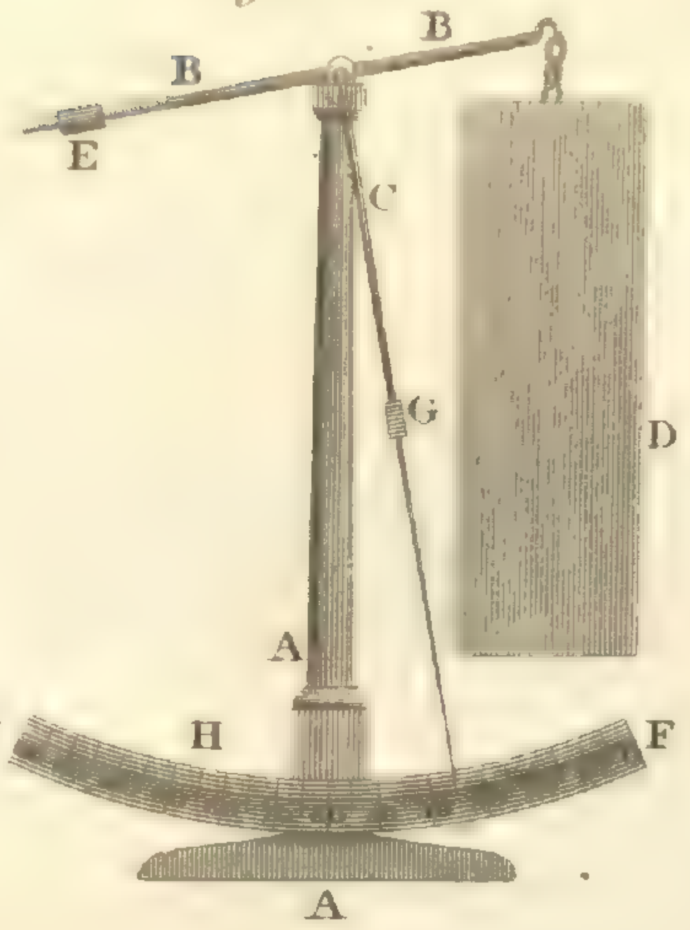
JET d'eau.

Fig. 1.



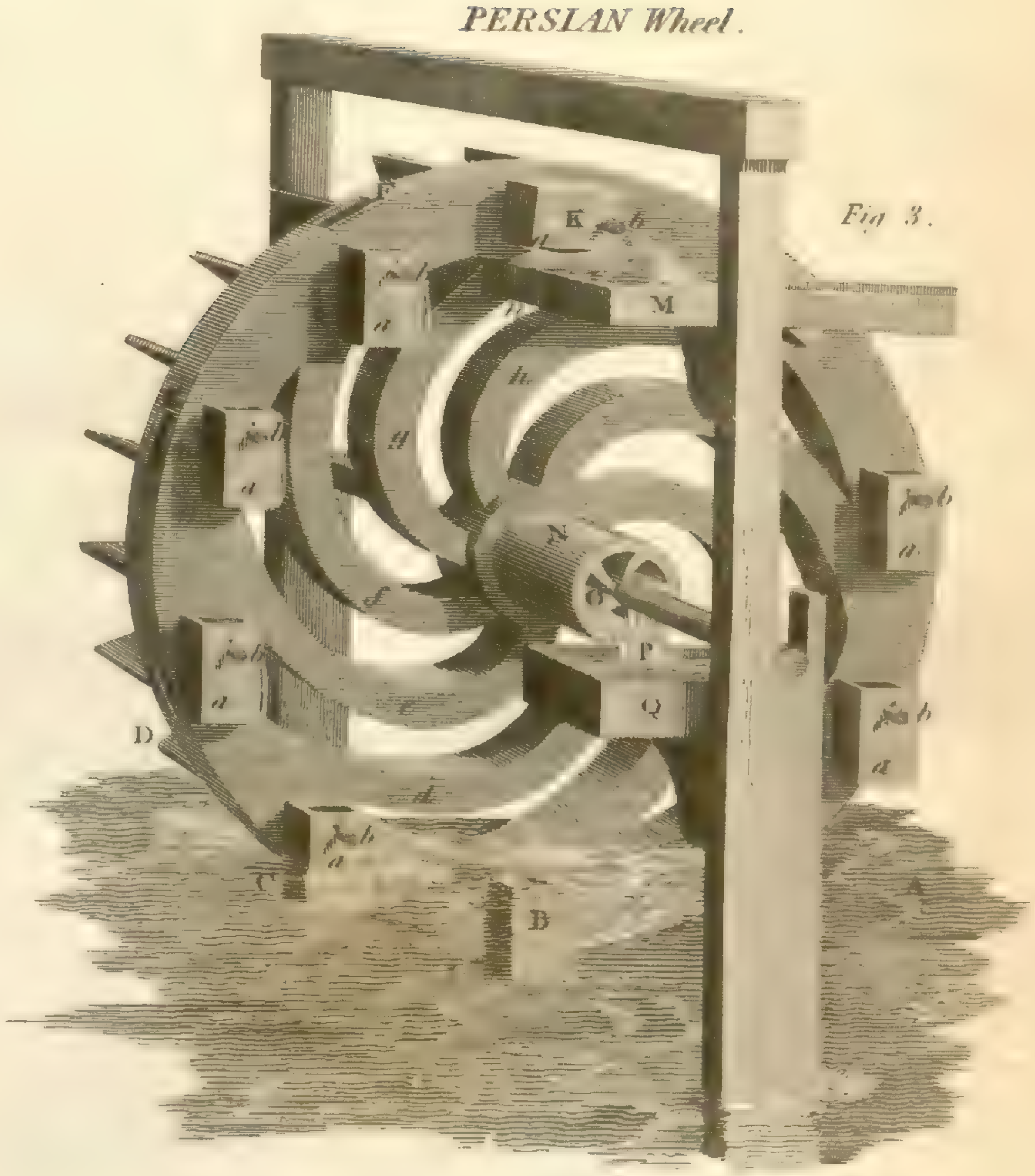
MOISTURE

Fig. 2.



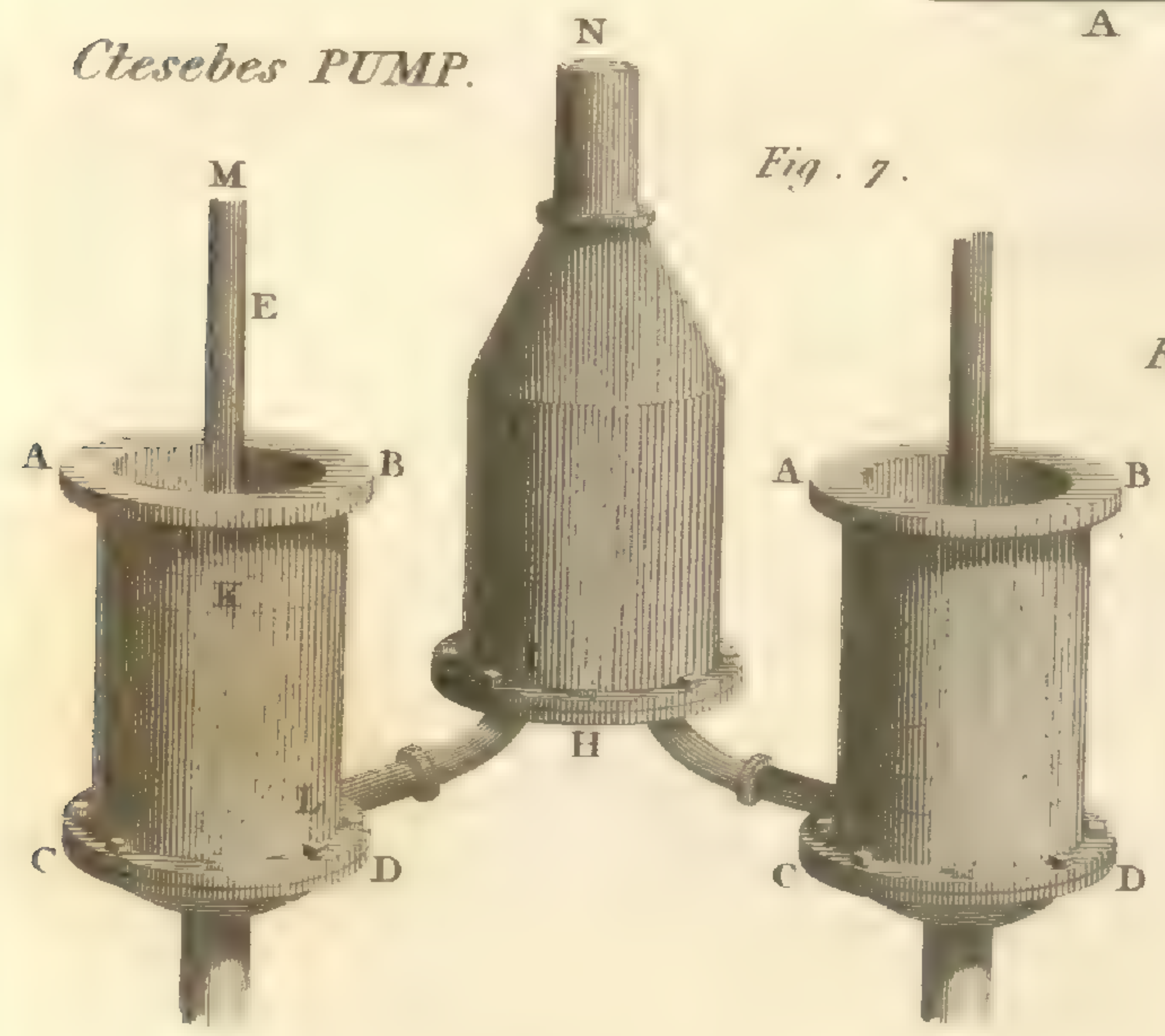
PERSIAN Wheel.

Fig. 3.



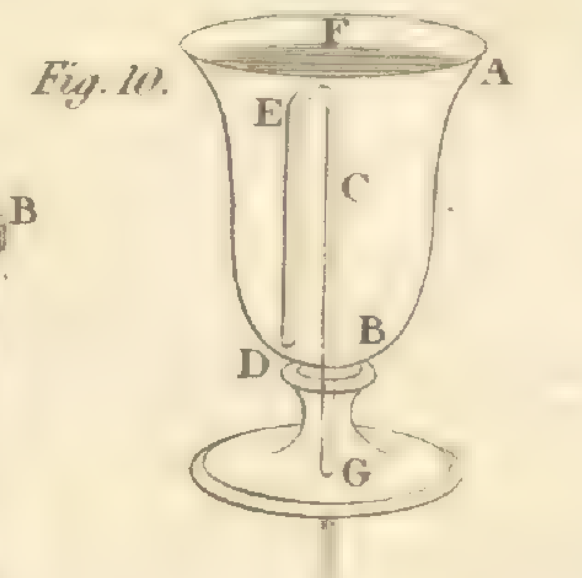
Ctesebes PUMP.

Fig. 7.



TANTALUS'S Cup.

Fig. 10.



Sucking PUMP. Forcing PUMP. Lifting PUMP.

Fig. 4. Fig. 5. Fig. 6.

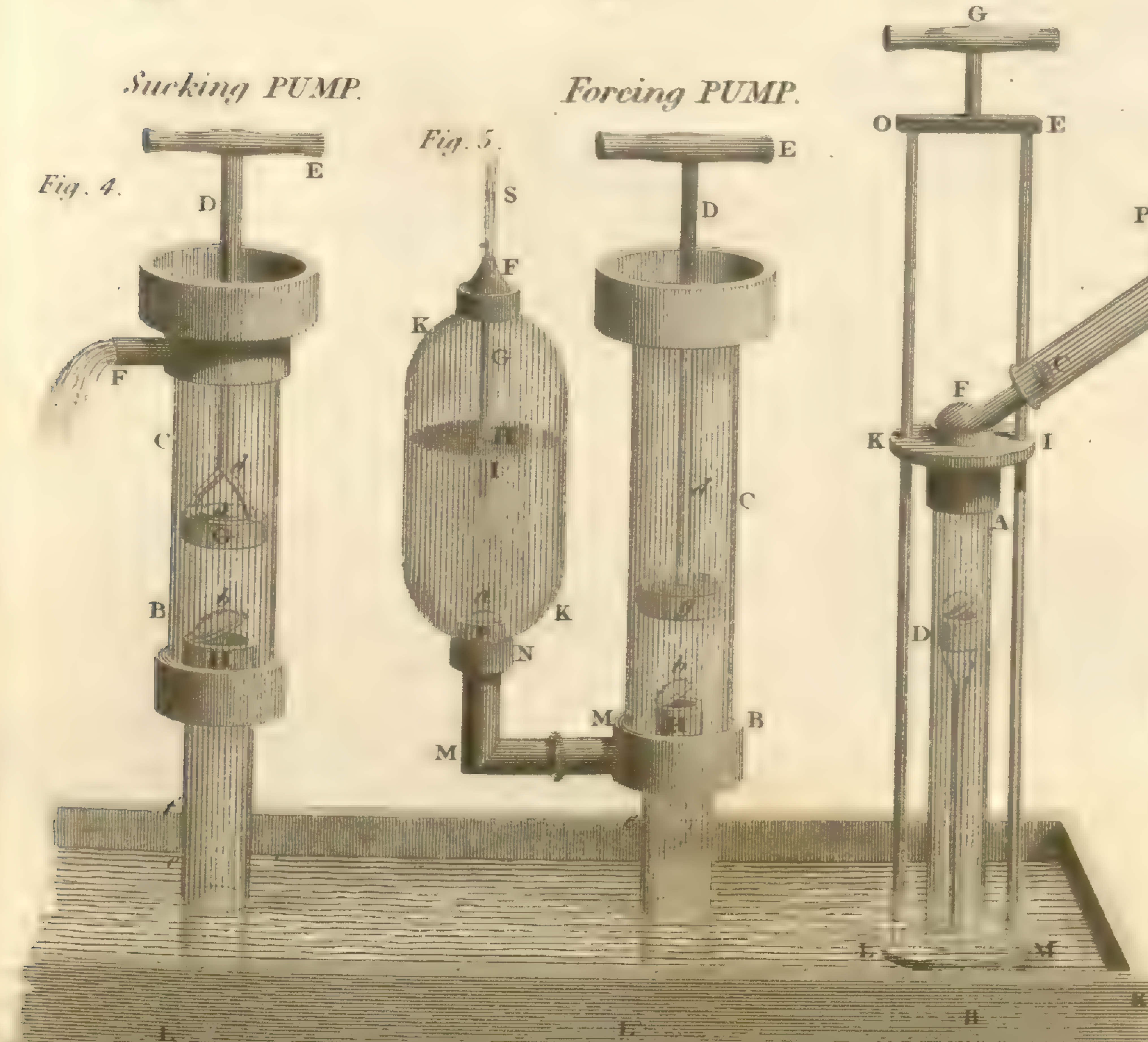
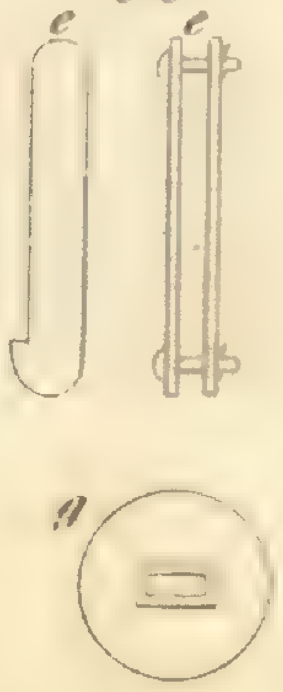
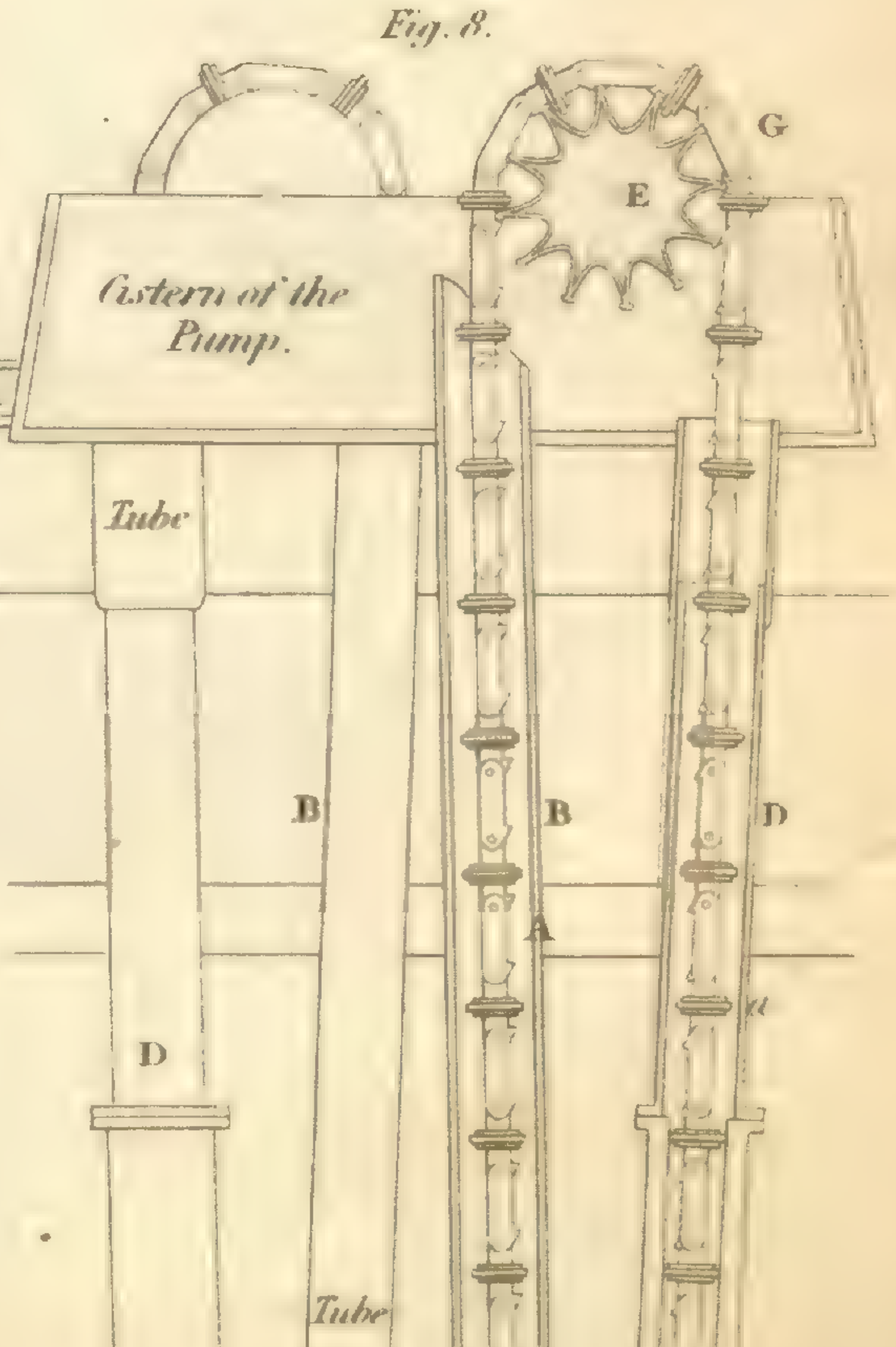


Fig. 9.



Chain PUMP.

Fig. 8.



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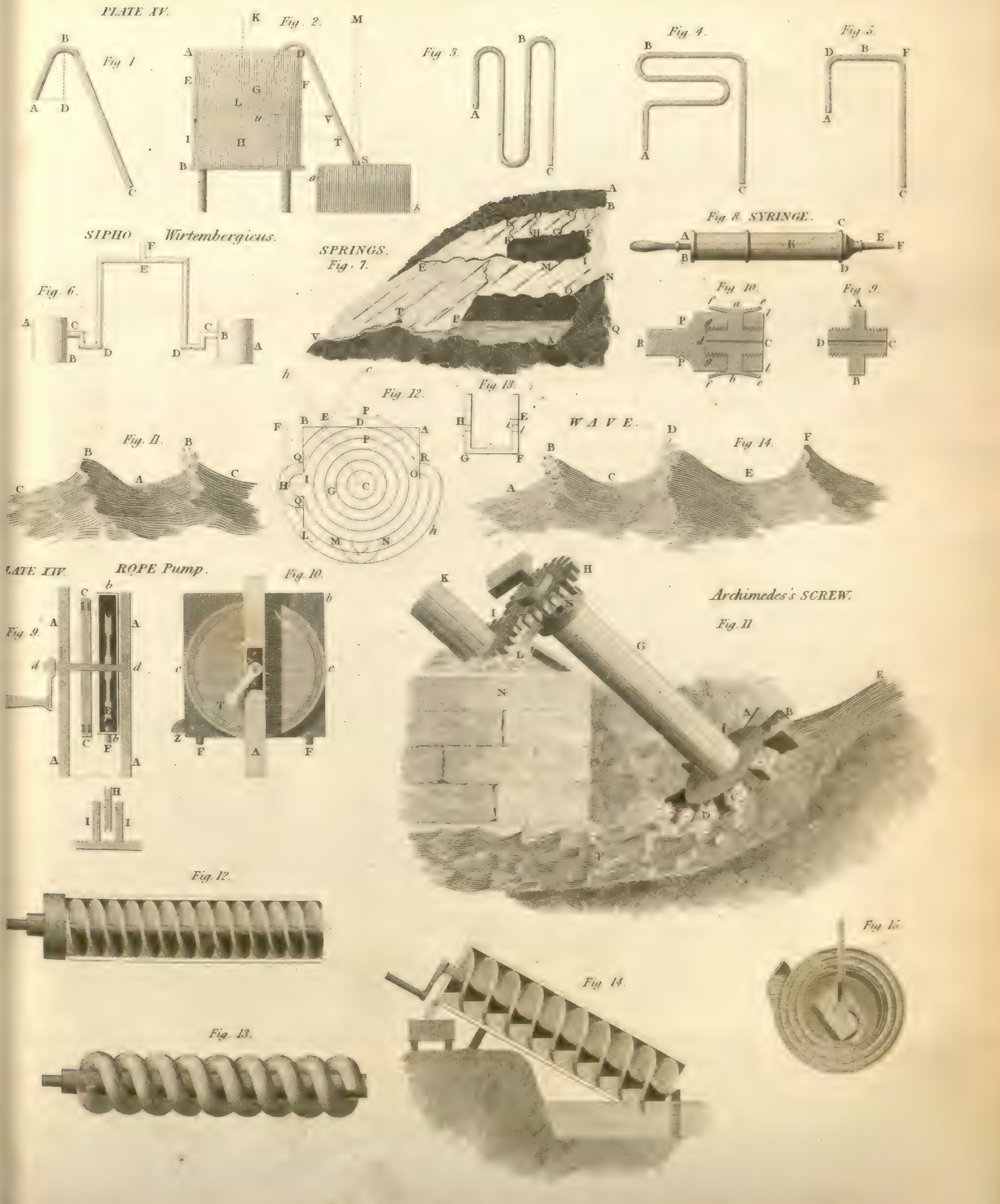
HYDRAULICS.

SIPHON.



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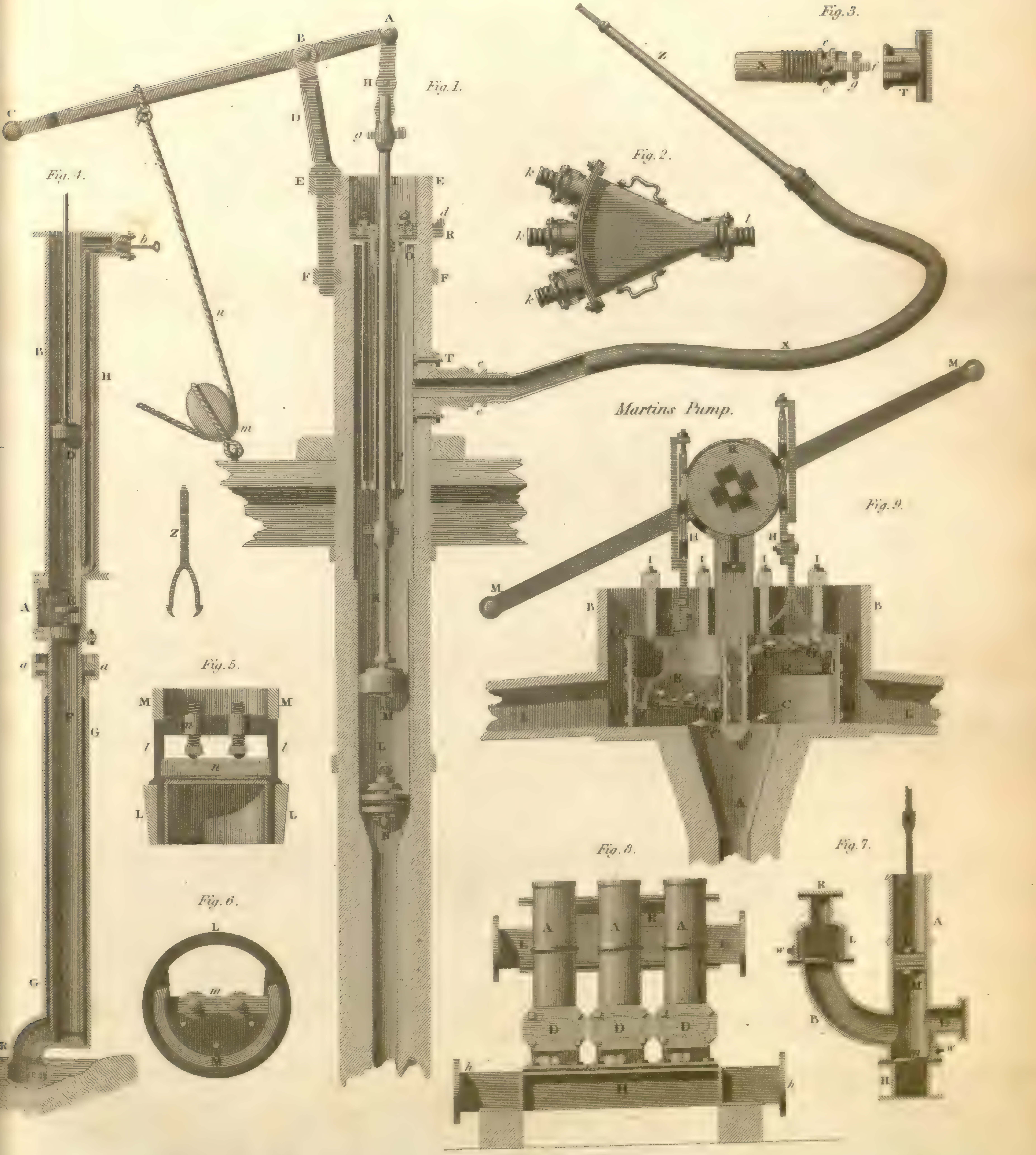
HYDRAULICS.

PUMPS.

Capt. Jekyls improved Ships Pump.



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Lowry sculp.

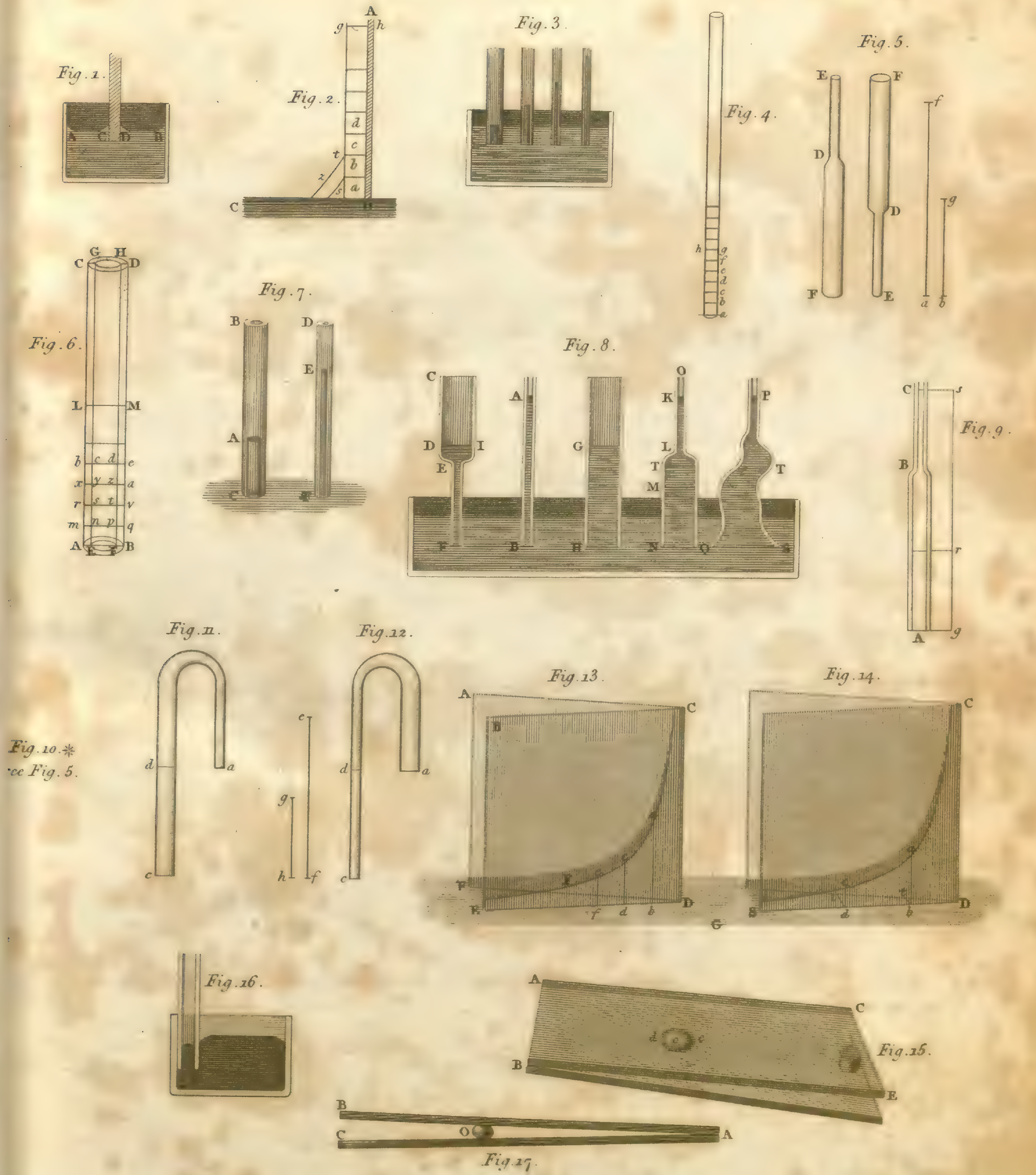

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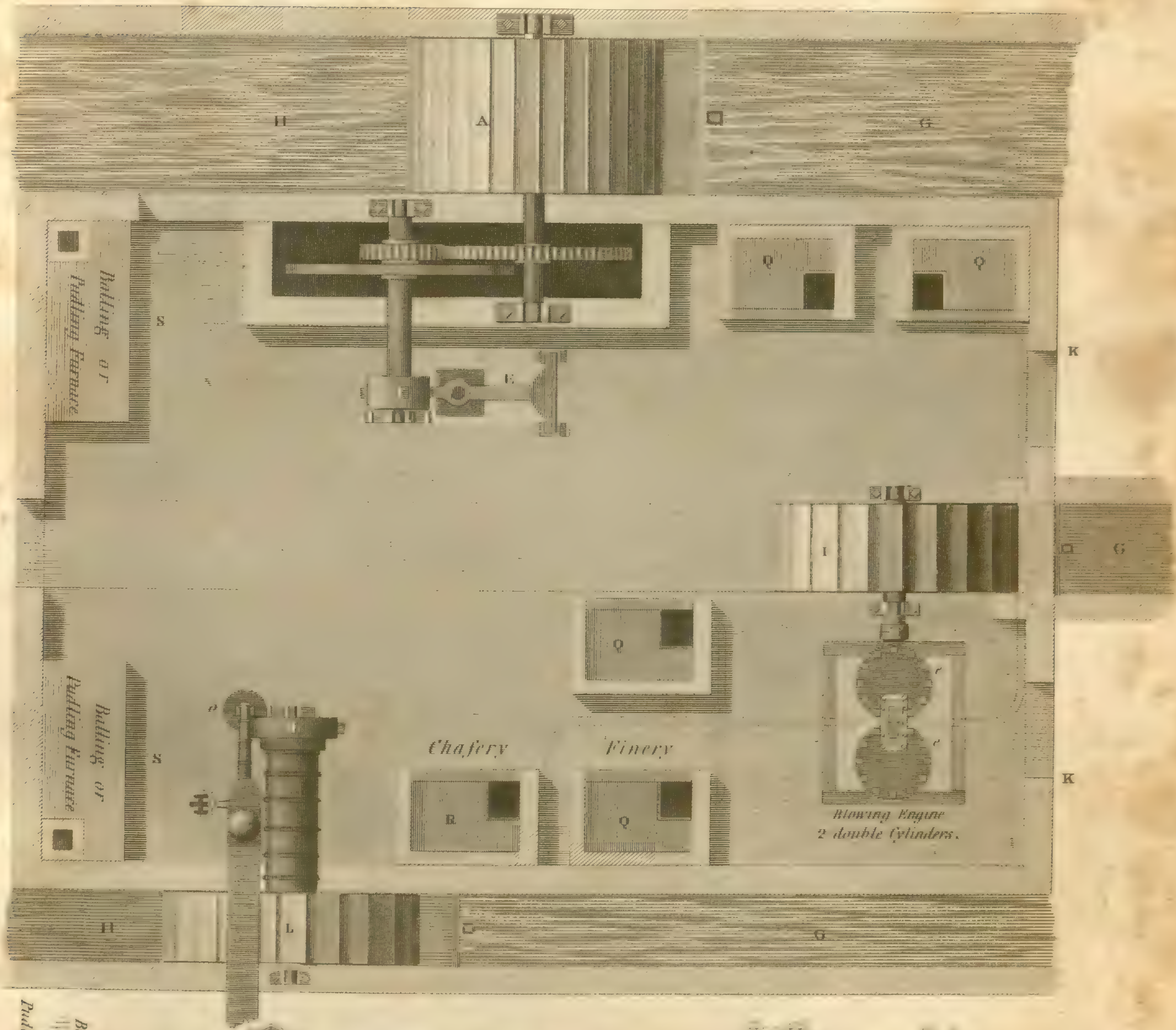
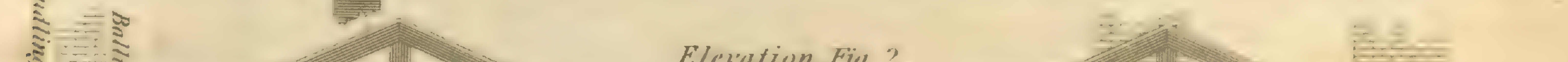
Fig.1. Plan of an Iron Forge.





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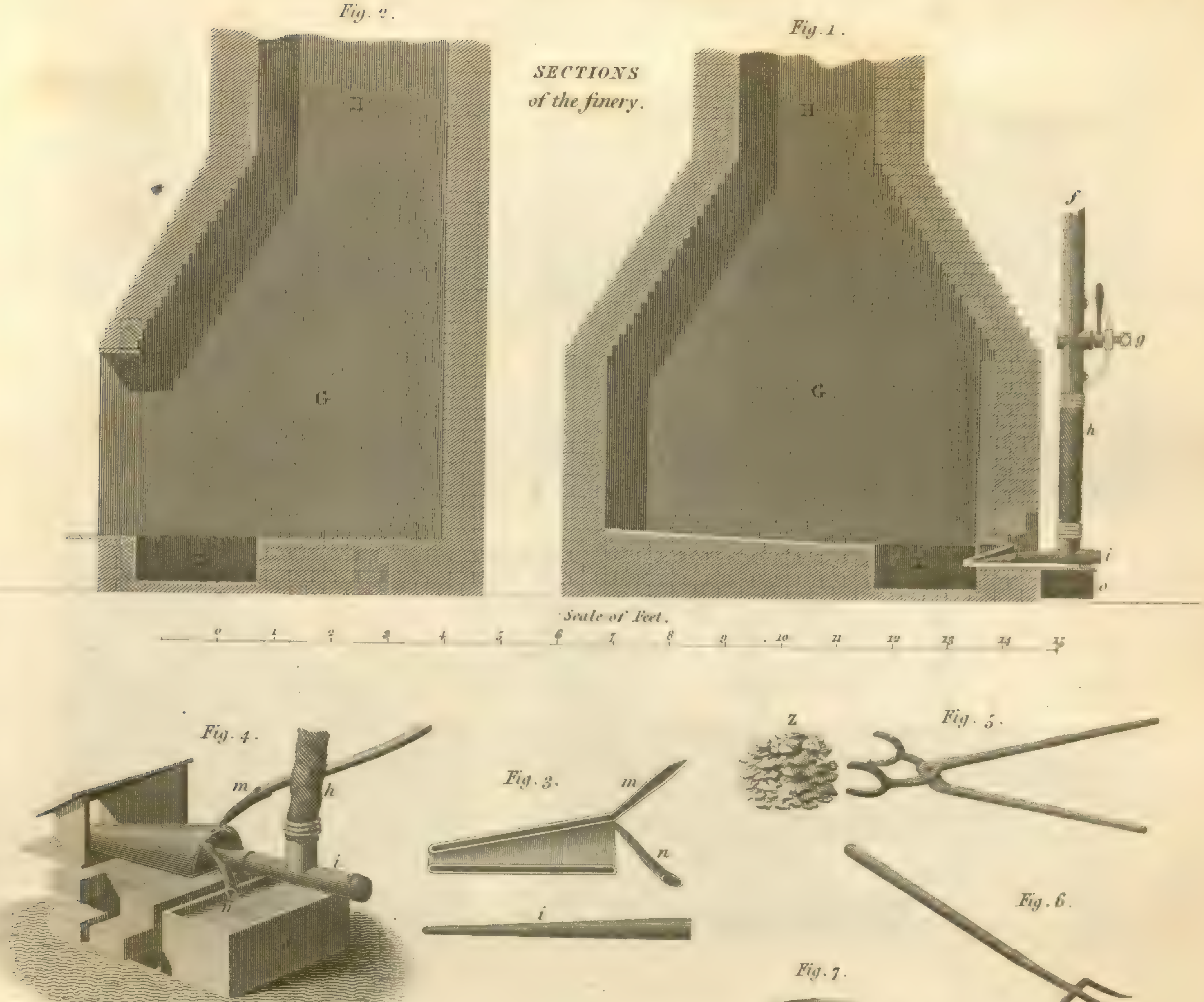

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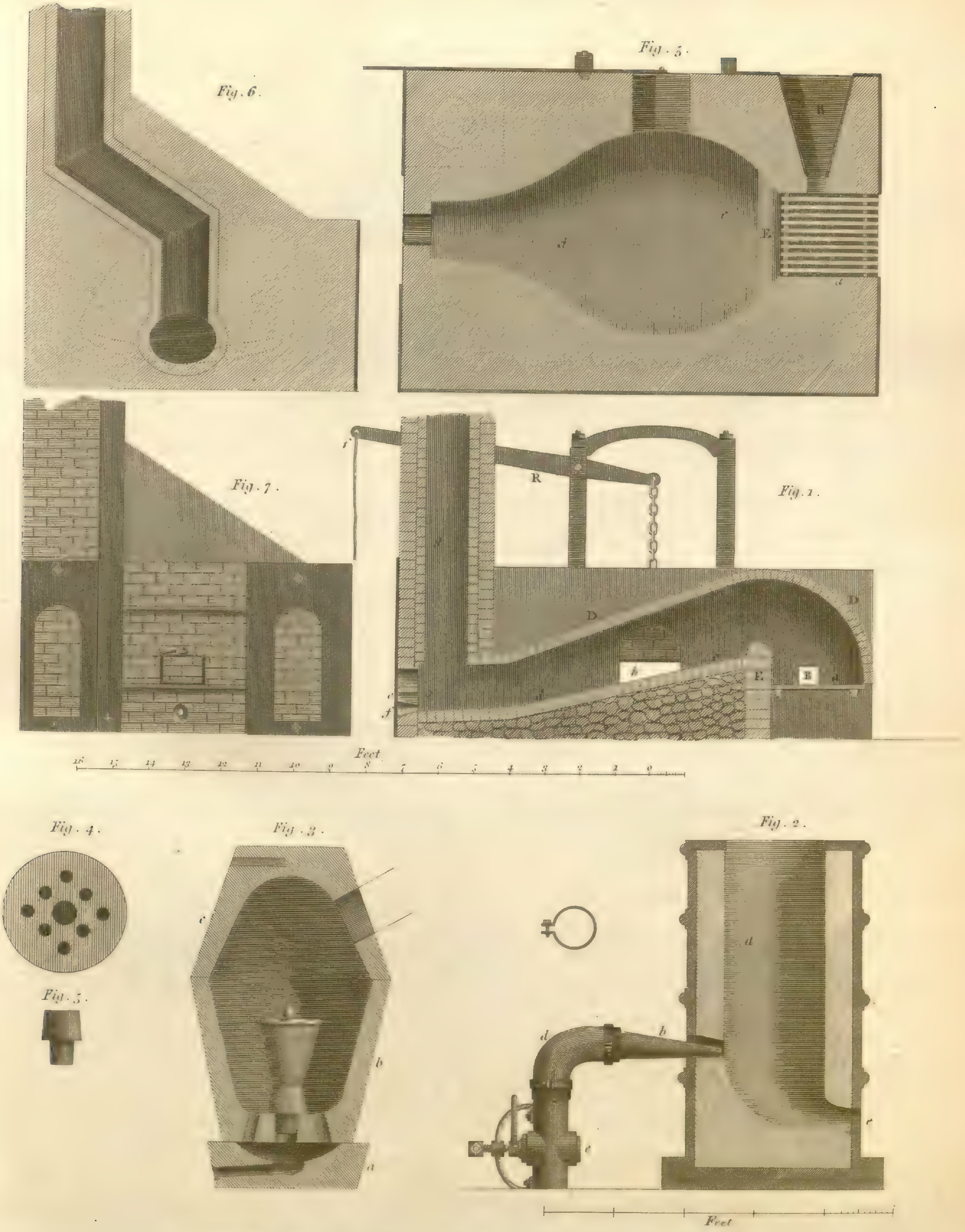
FURNACE.

PLATE III & IV.



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Mr. Smeatons Design for the Machinery of the Hammer at Kilnhurst Forge.

Fig. 1. Elevation in Front.

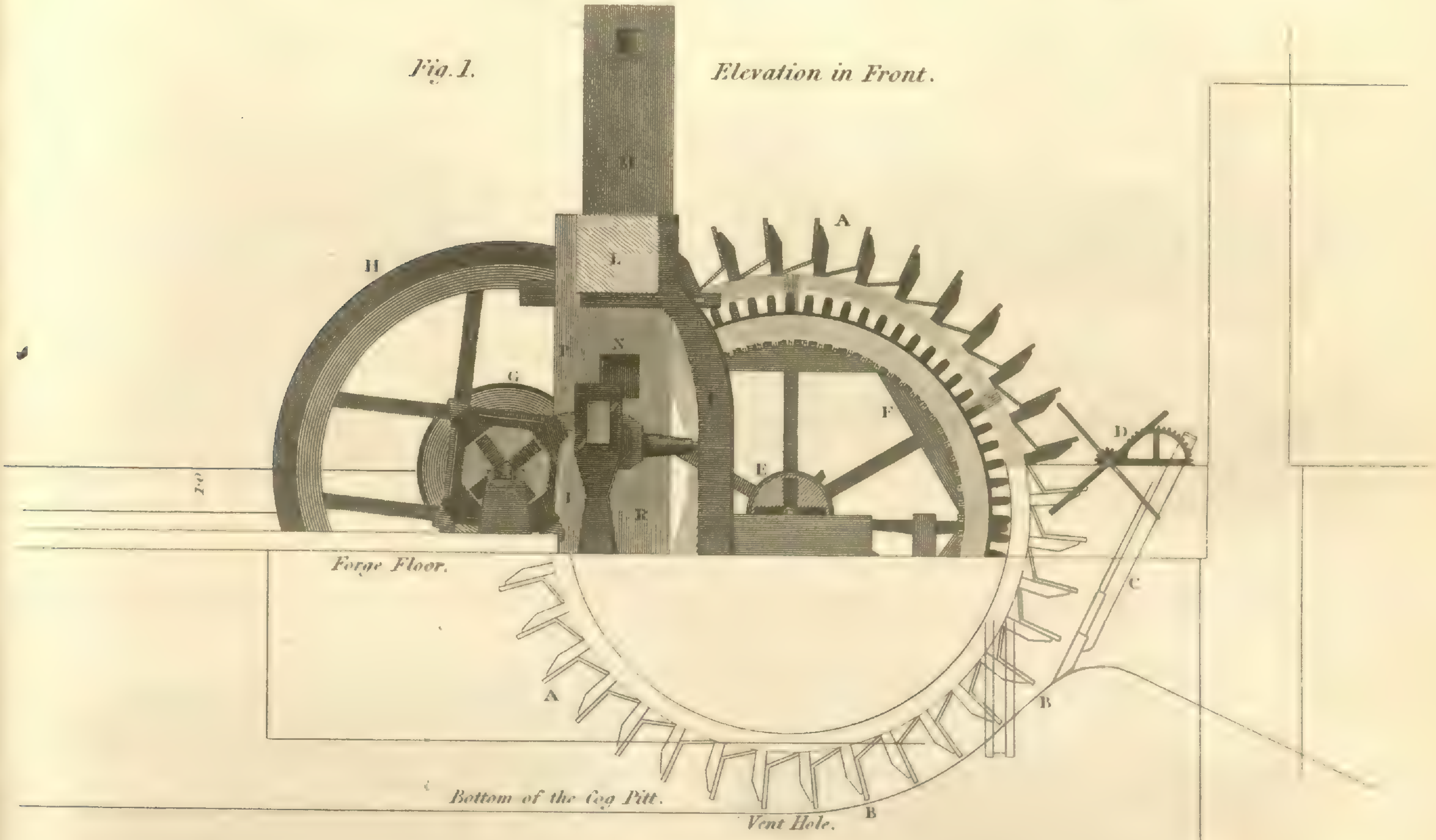
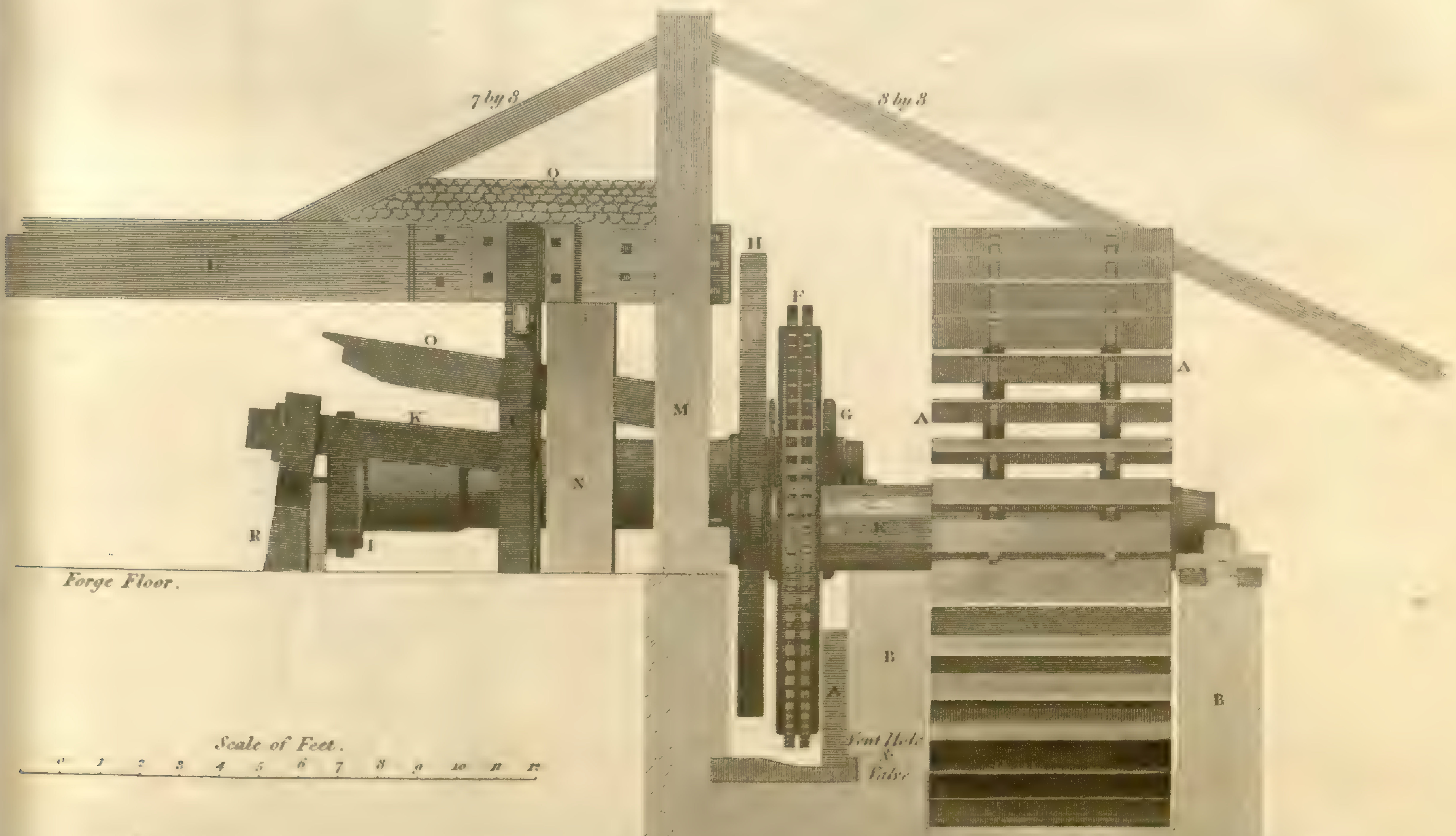


Fig. 2. Elevation Sideways.



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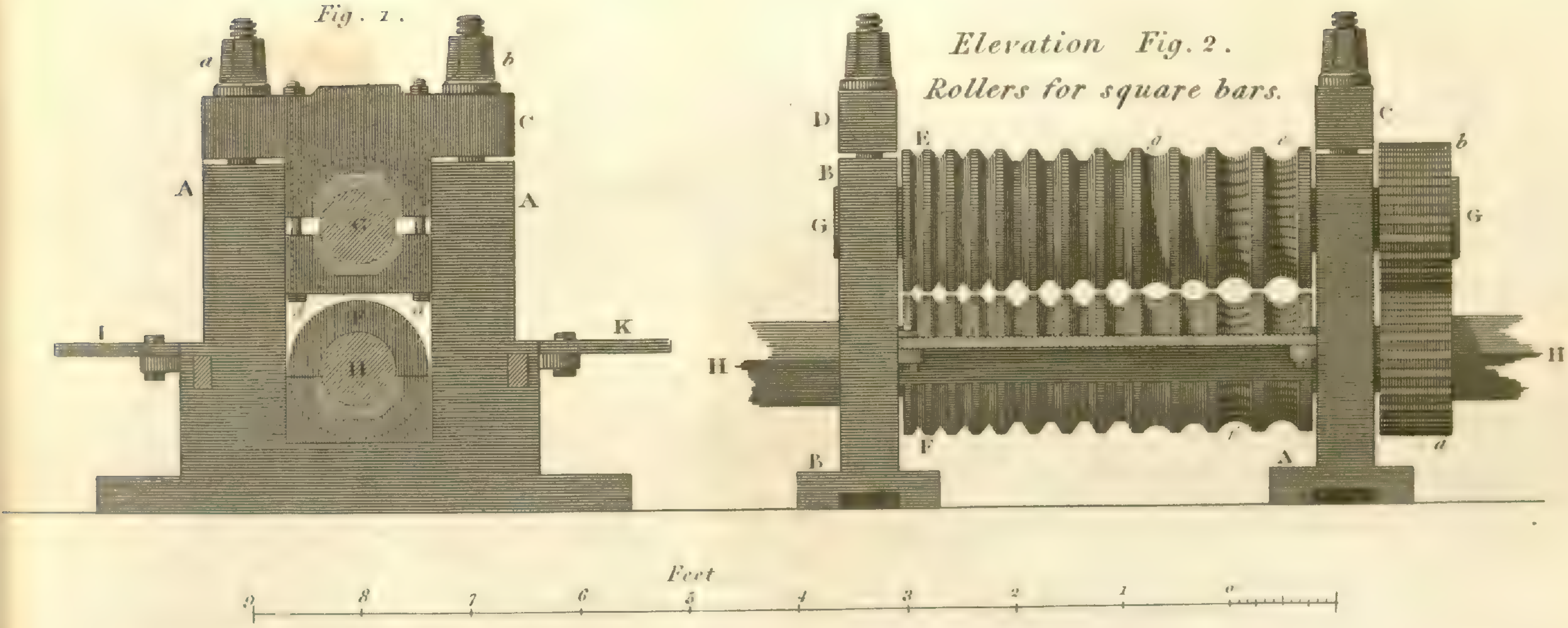
ROLLERS *for making* BAR IRON.



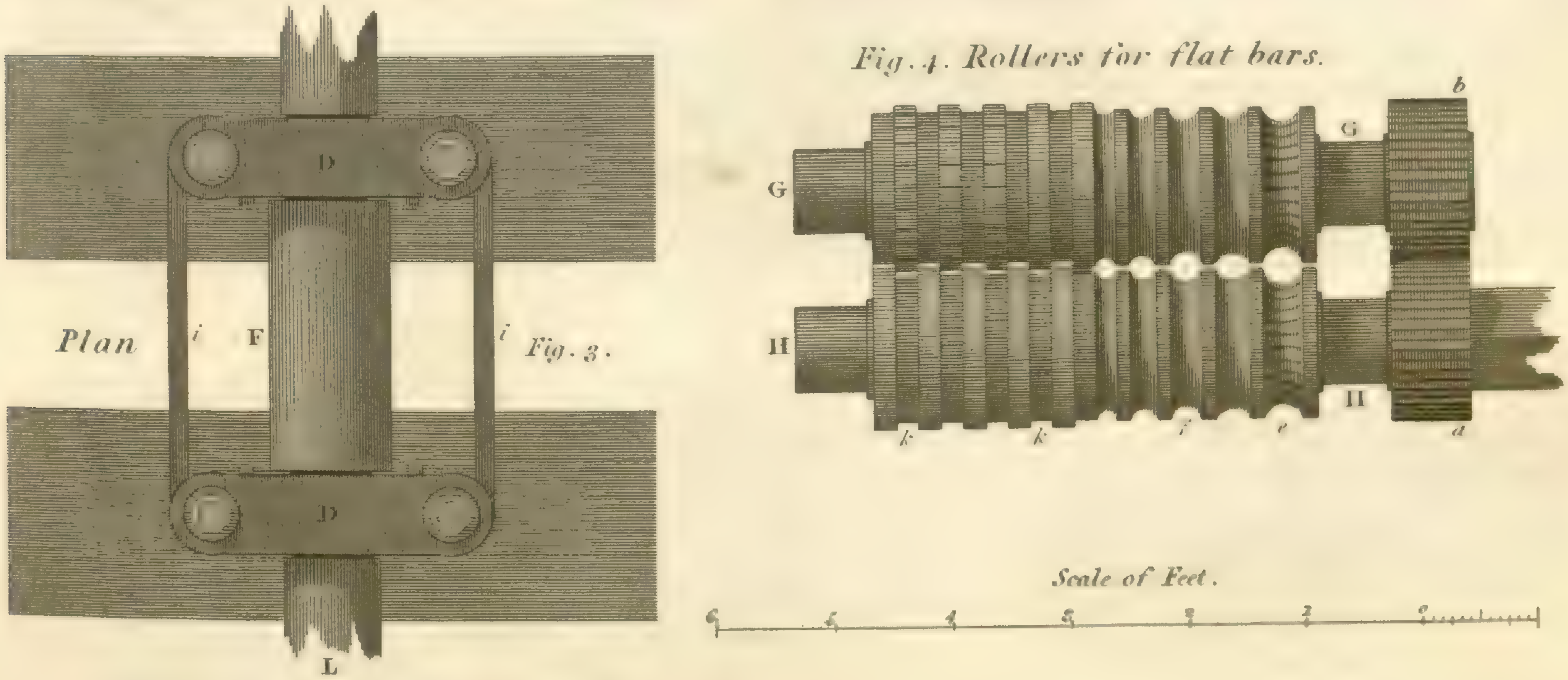
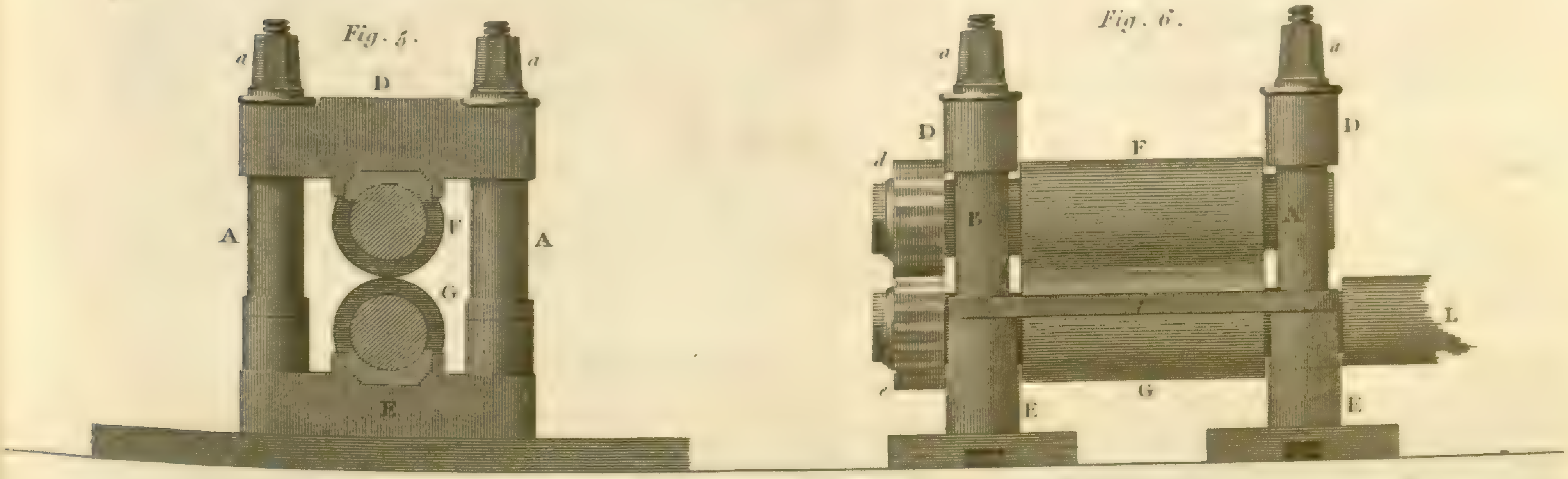


Plate Roller.



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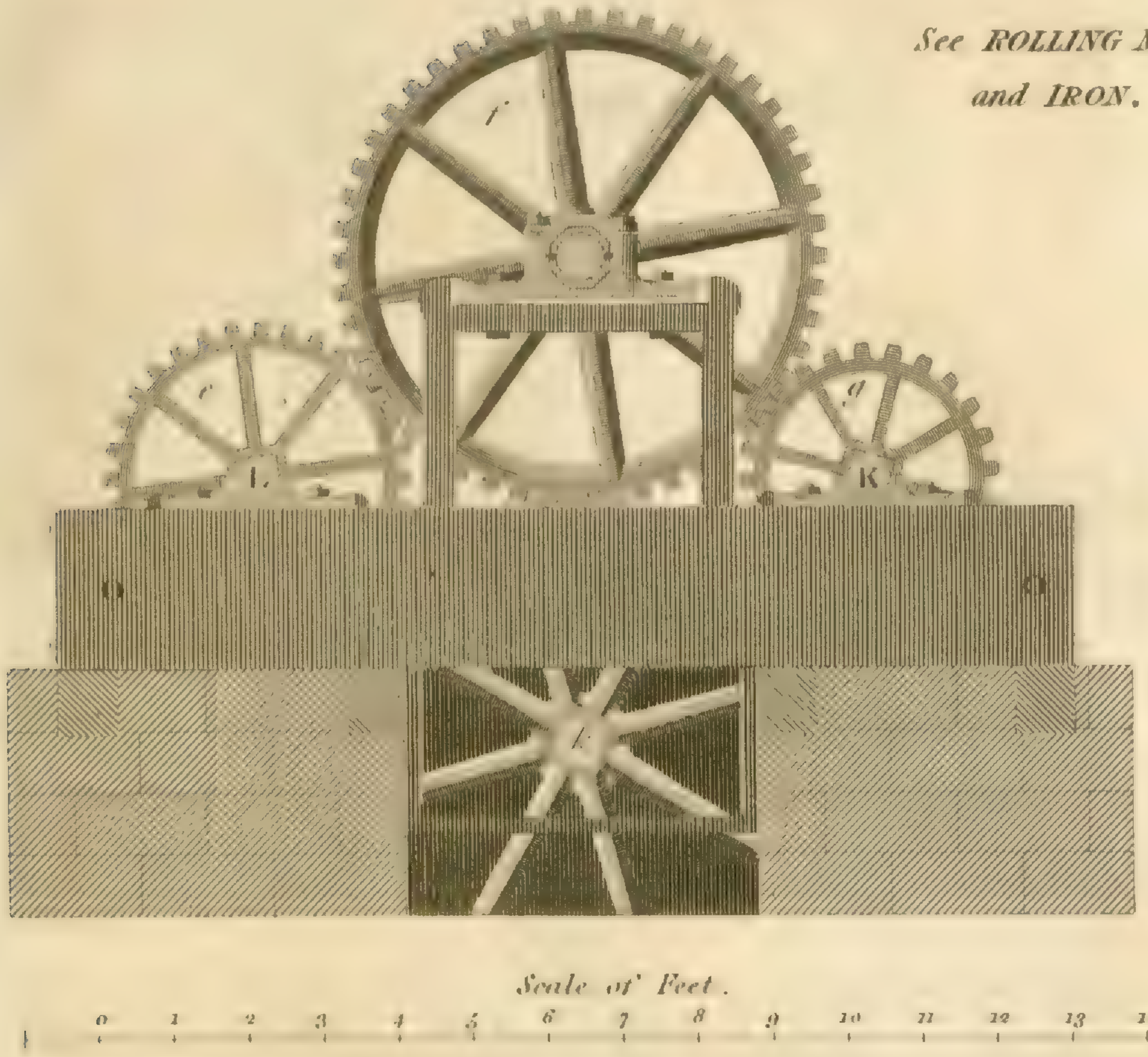
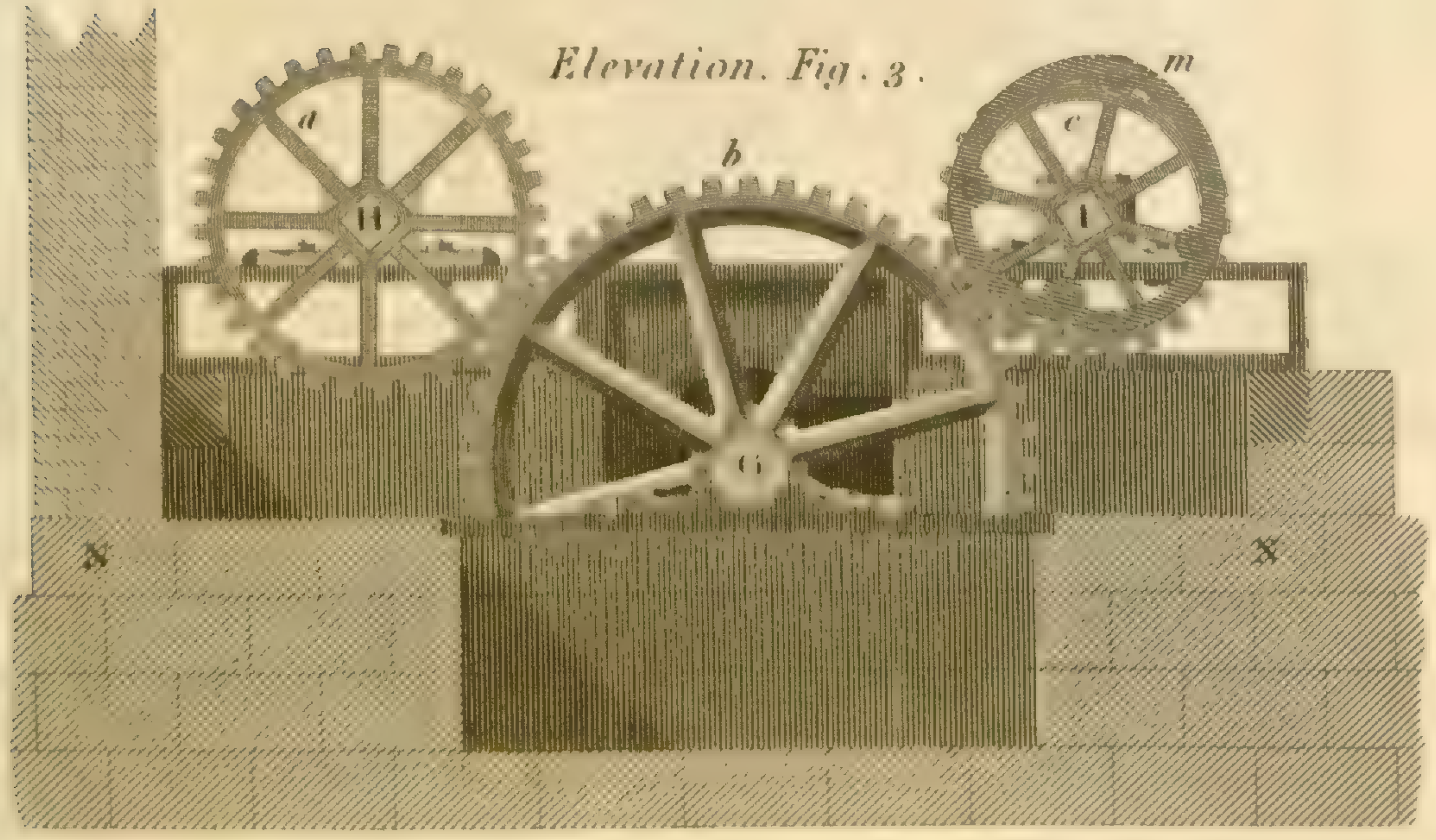
Rolling and Slitting Mill, at Messrs. Walker's Iron Works, Rotherham.

Elevation. Fig. 2.

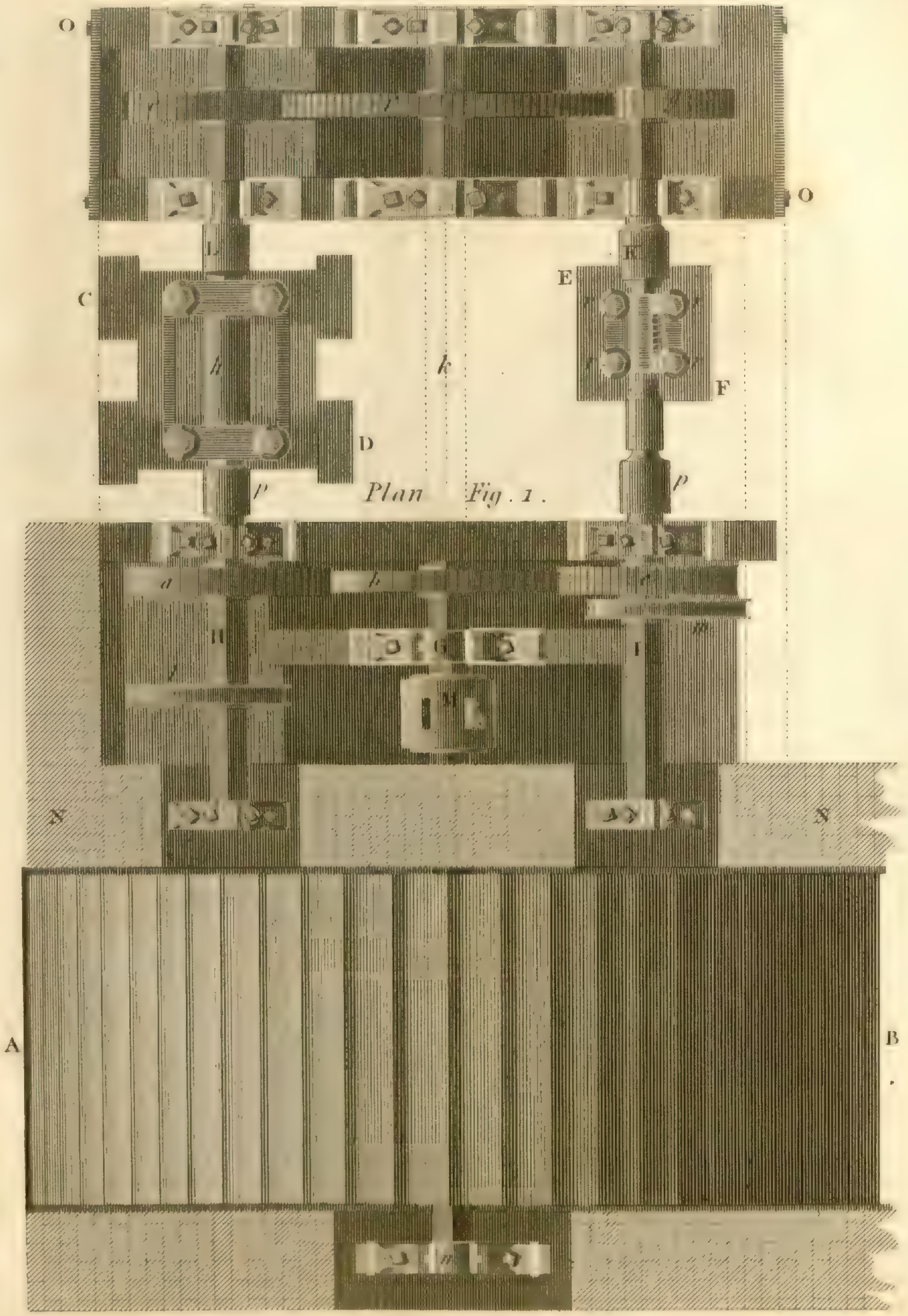
See ROLLING MILL and IRON.



Elevation. Fig. 3.



Plan Fig. 1.



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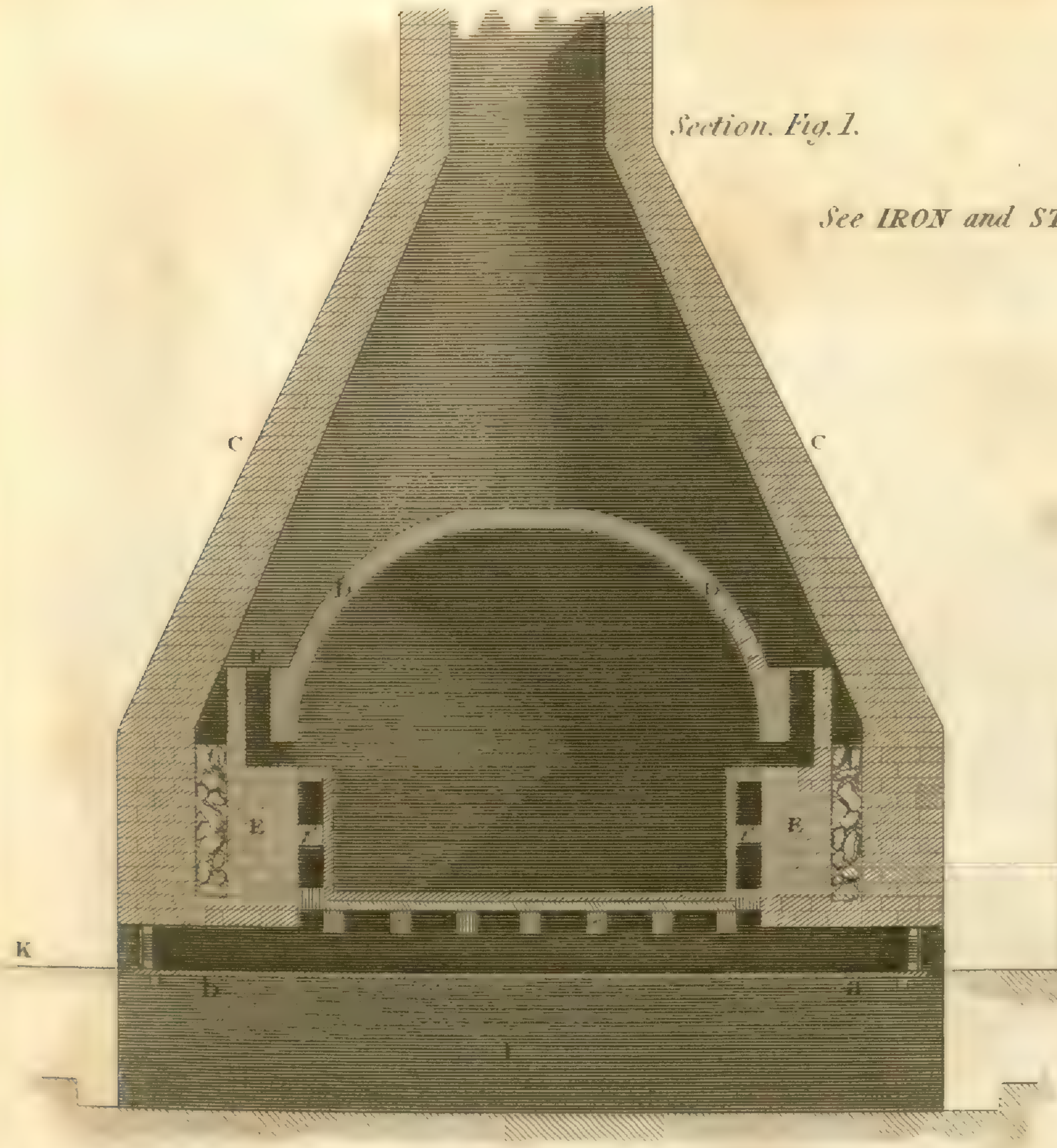
Engraved by W. Lowry.

IRON MANUFACTURE.

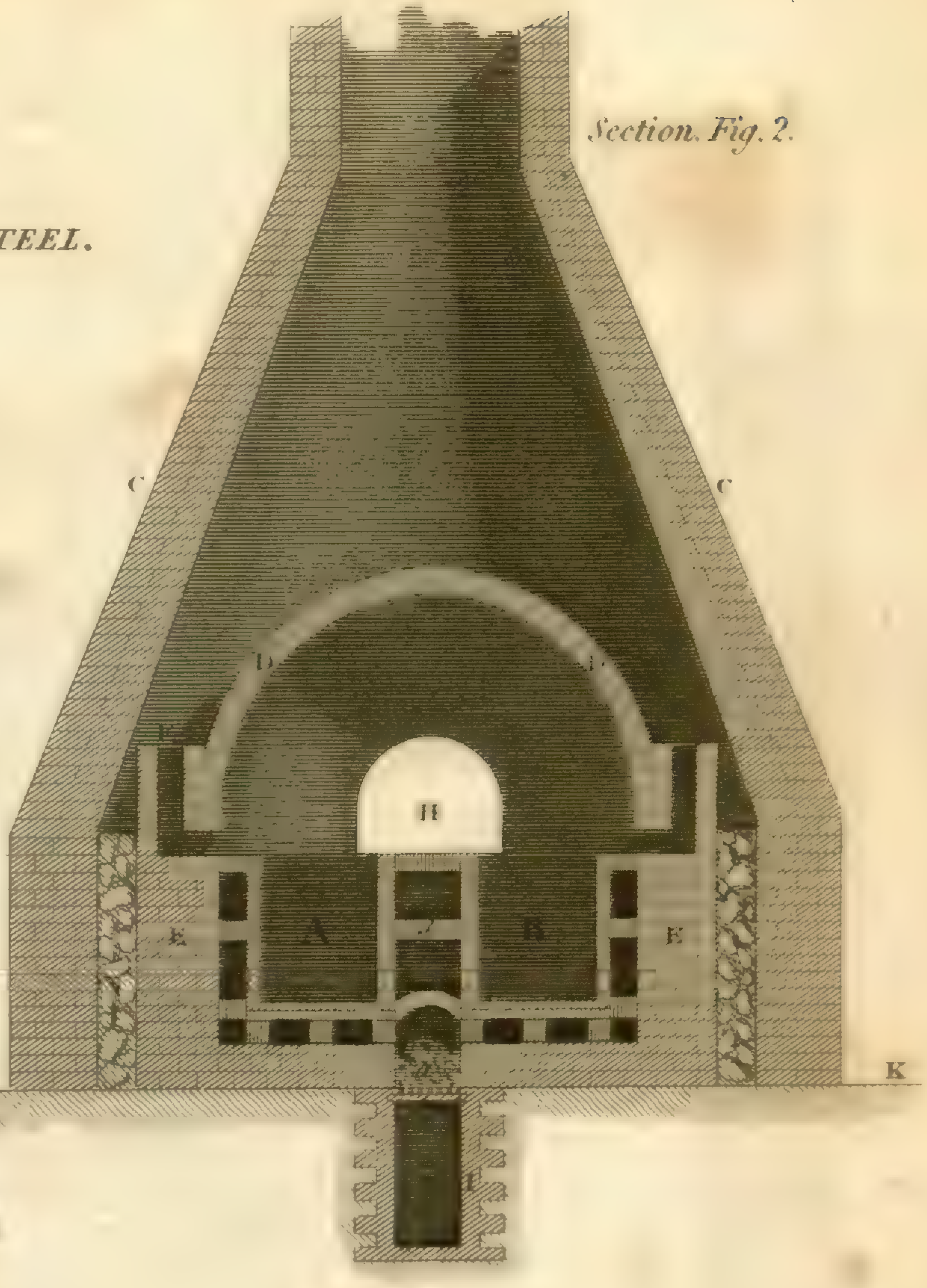
STEEL CONVERTING FURNACE.

See IRON and STEEL.

Section. Fig. 1.



Section. Fig. 2.



Scale of Feet.

Plan. *Fig. 3.*

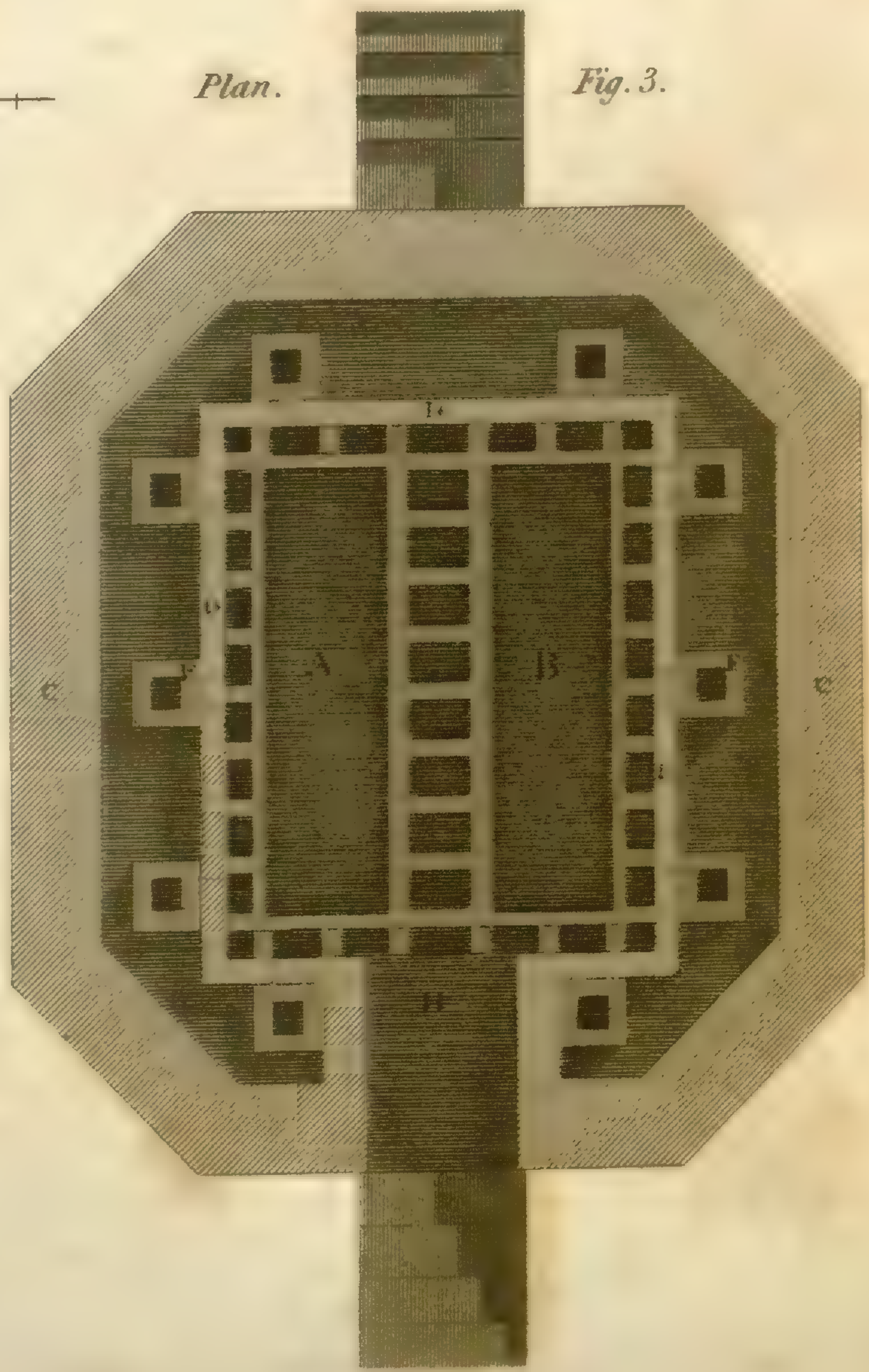


Fig. 4.

Fig. 7.

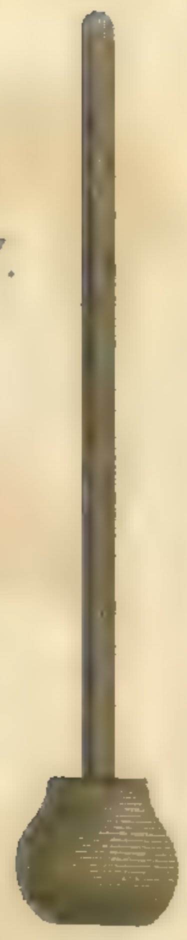
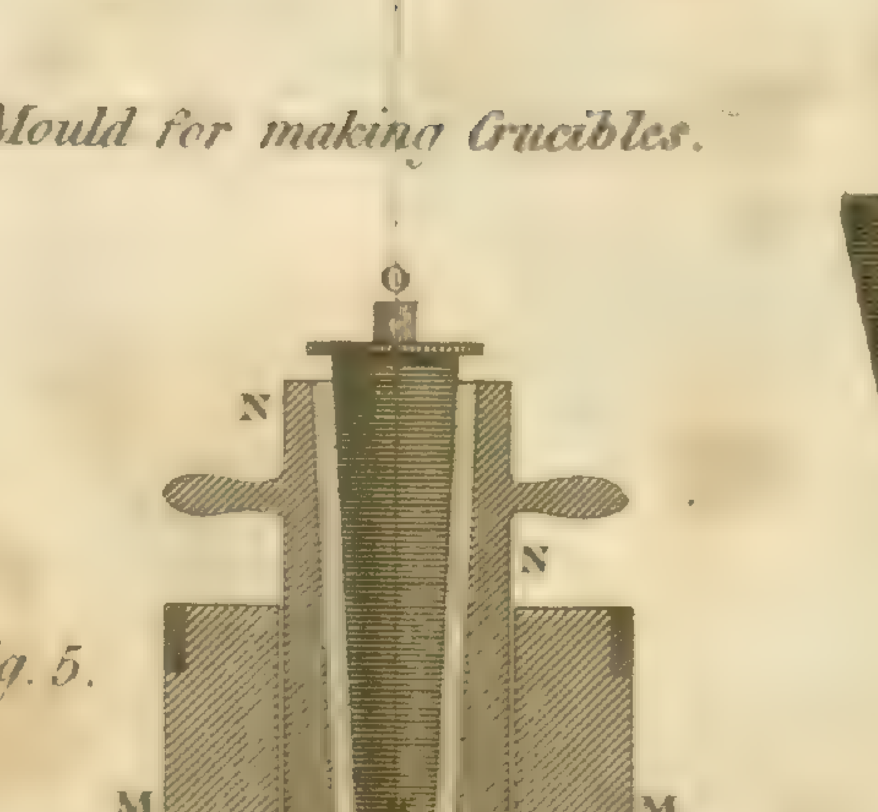


Fig. 6.

Mould for making Crucibles.

Fig. 5.

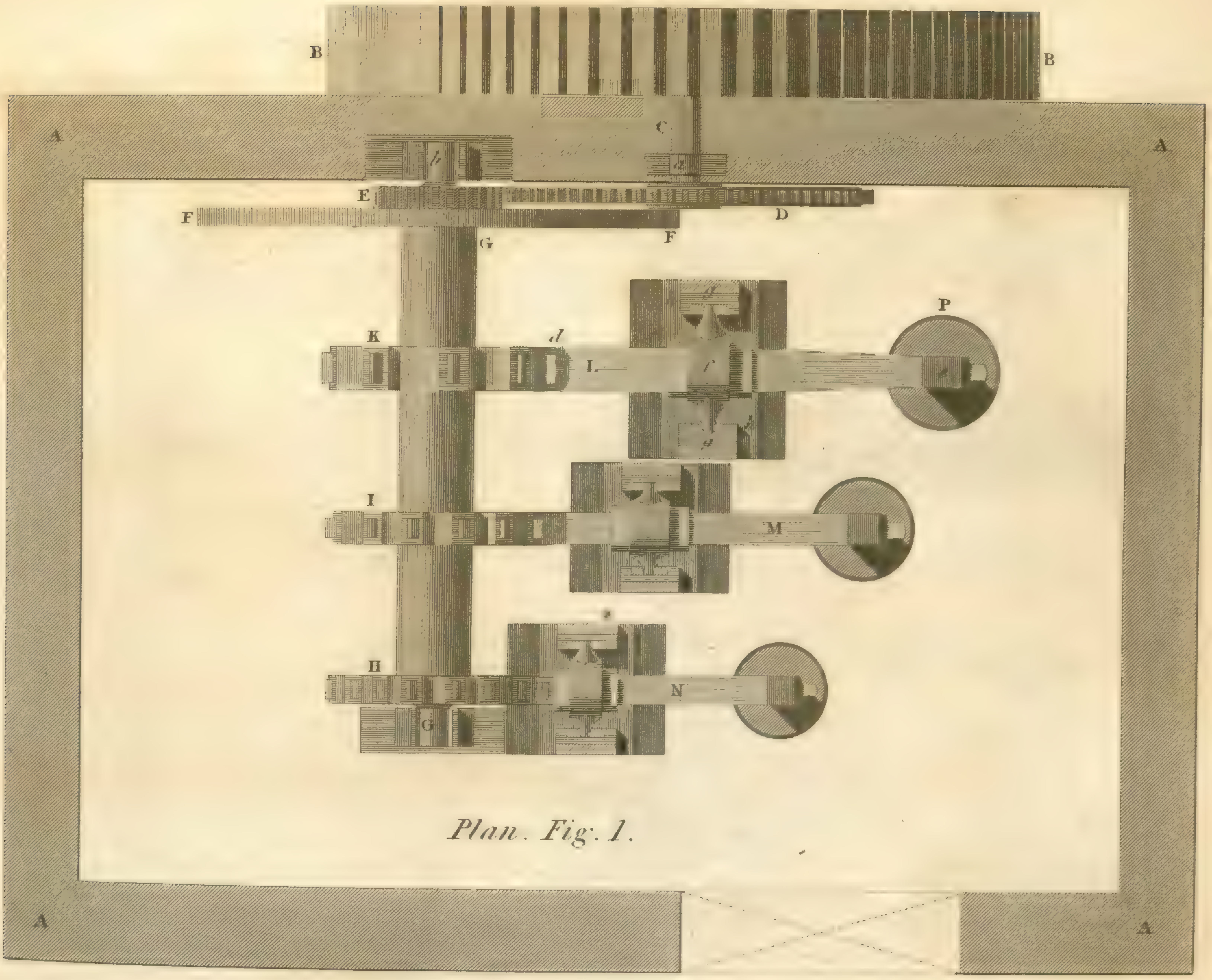


Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme, and Brown, Paternoster Row.

Lowry sculp.

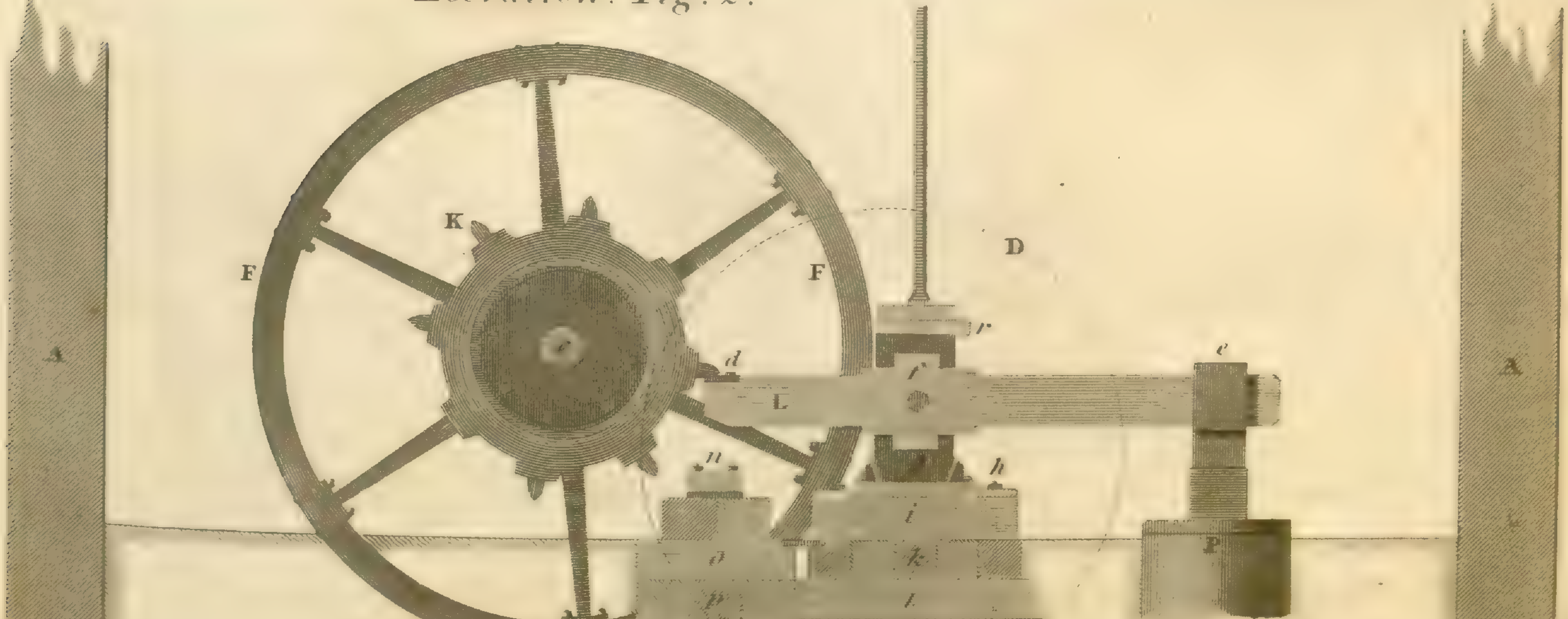
IRON MANUFACTURE.

MILL FOR TILTING STEEL,
by Mr. Smeaton.



Plan. Fig. 1.

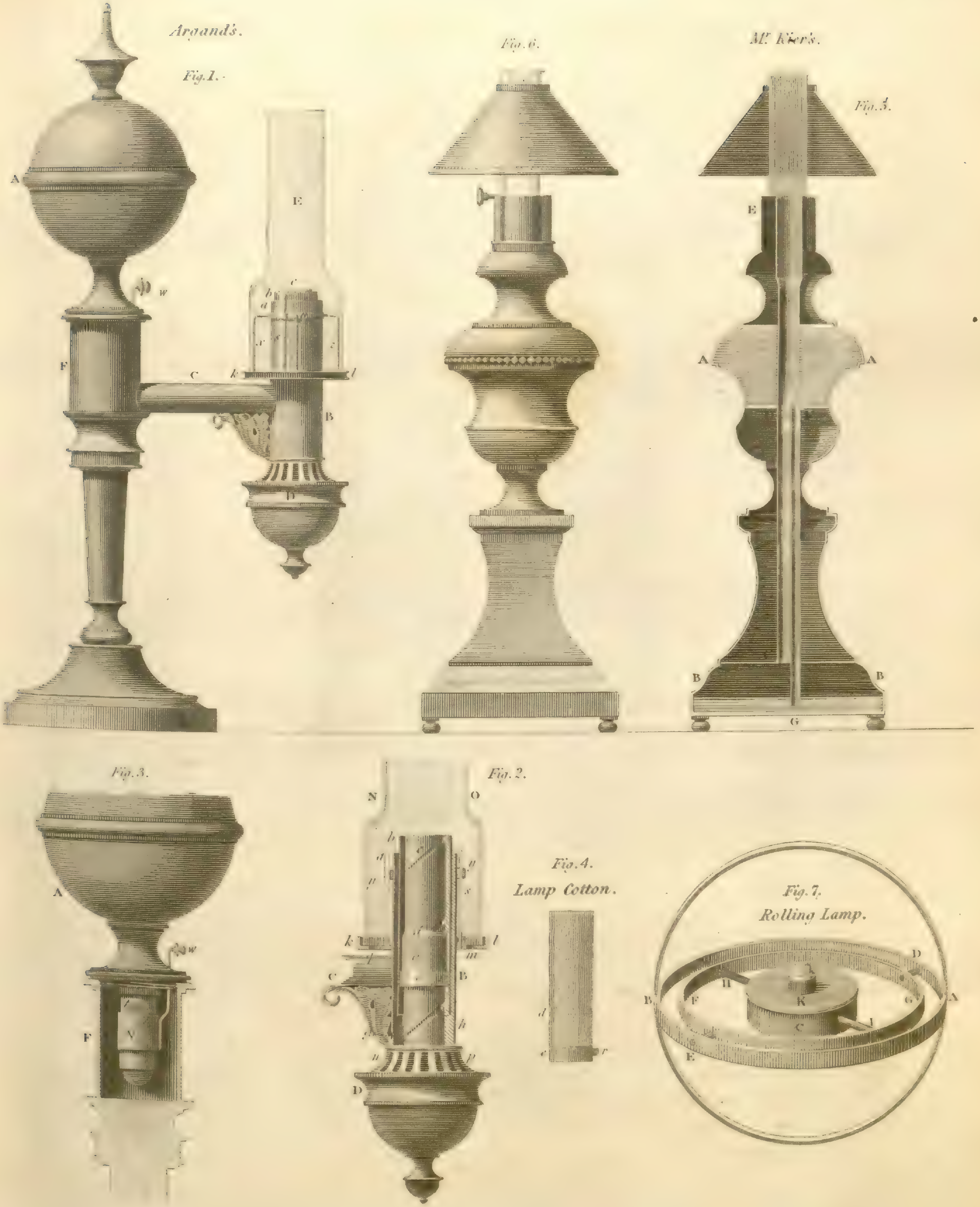
Elevation. Fig. 2.



...y delin.

Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Engraved by W. Lowry.



Published as the Act directs 1814 by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London.

LAMPS.

Hydro-Pneumatic Lamp, by R. W. King.

Fig. 1.

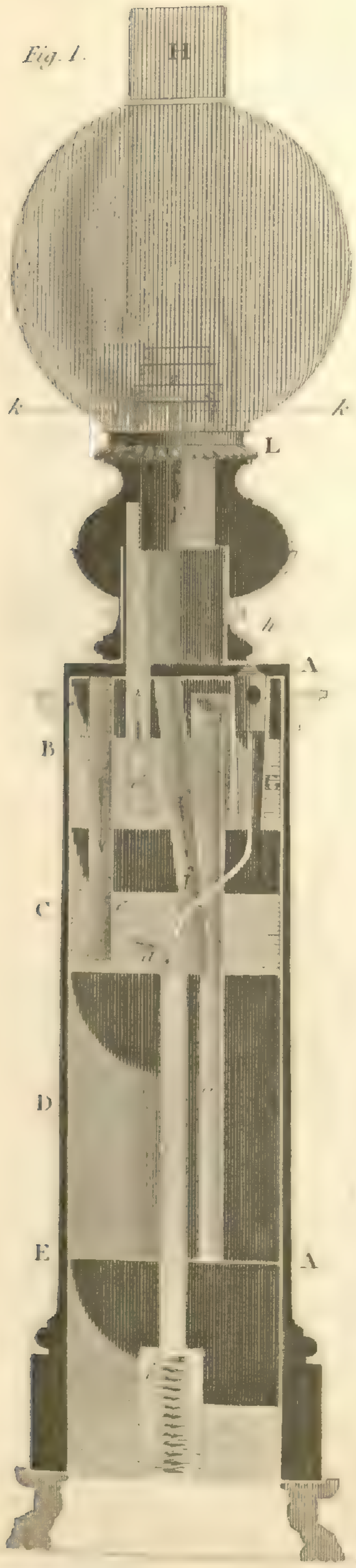


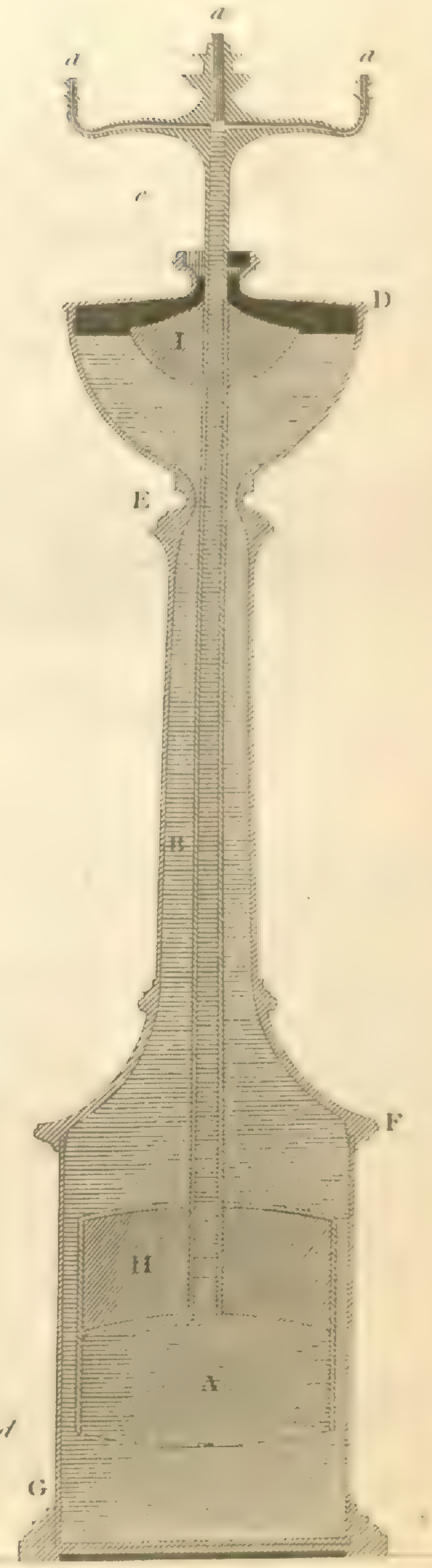
Fig. 2.

Fig. 4.

Fig. 3.

Fig. 5.

Mr. Barton's Lamp.



Porter's Automaton Lamp.

Fig. 6.

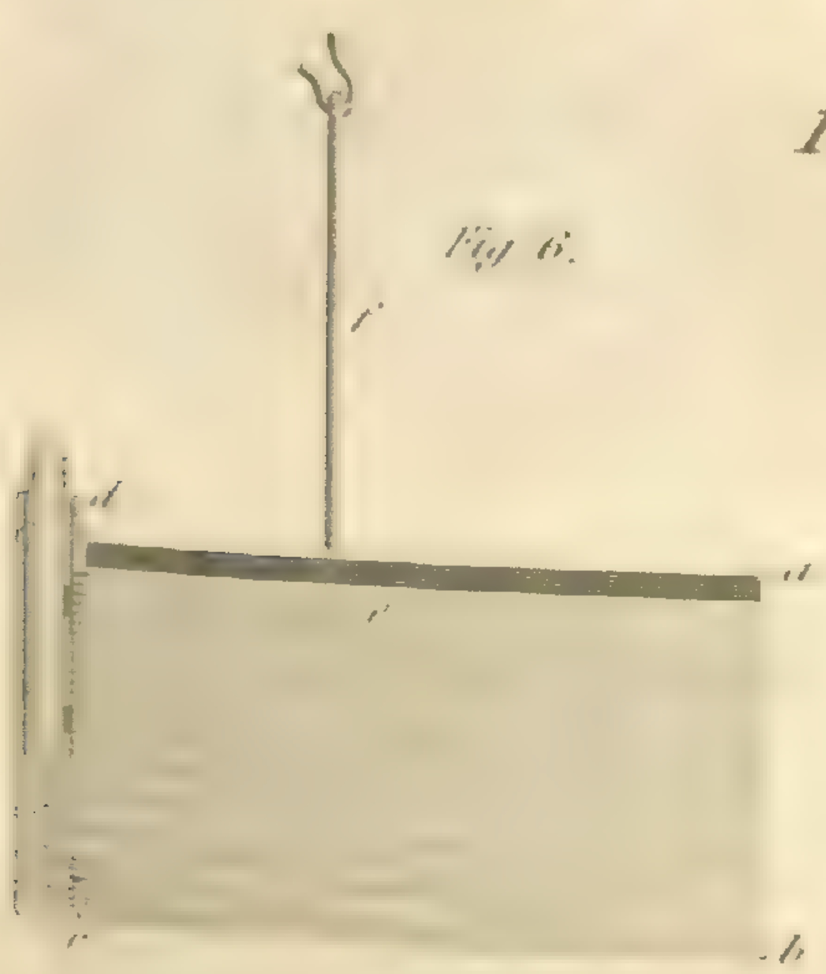


Fig. 7.

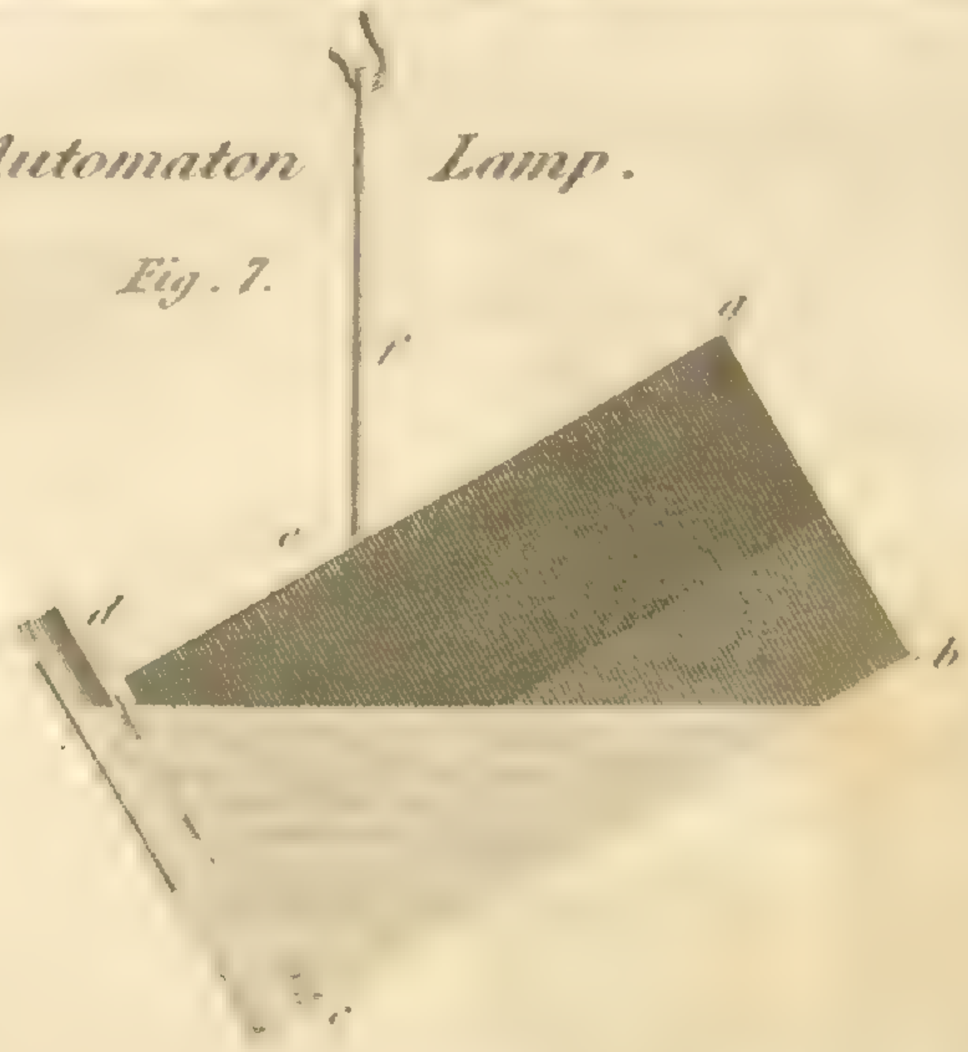
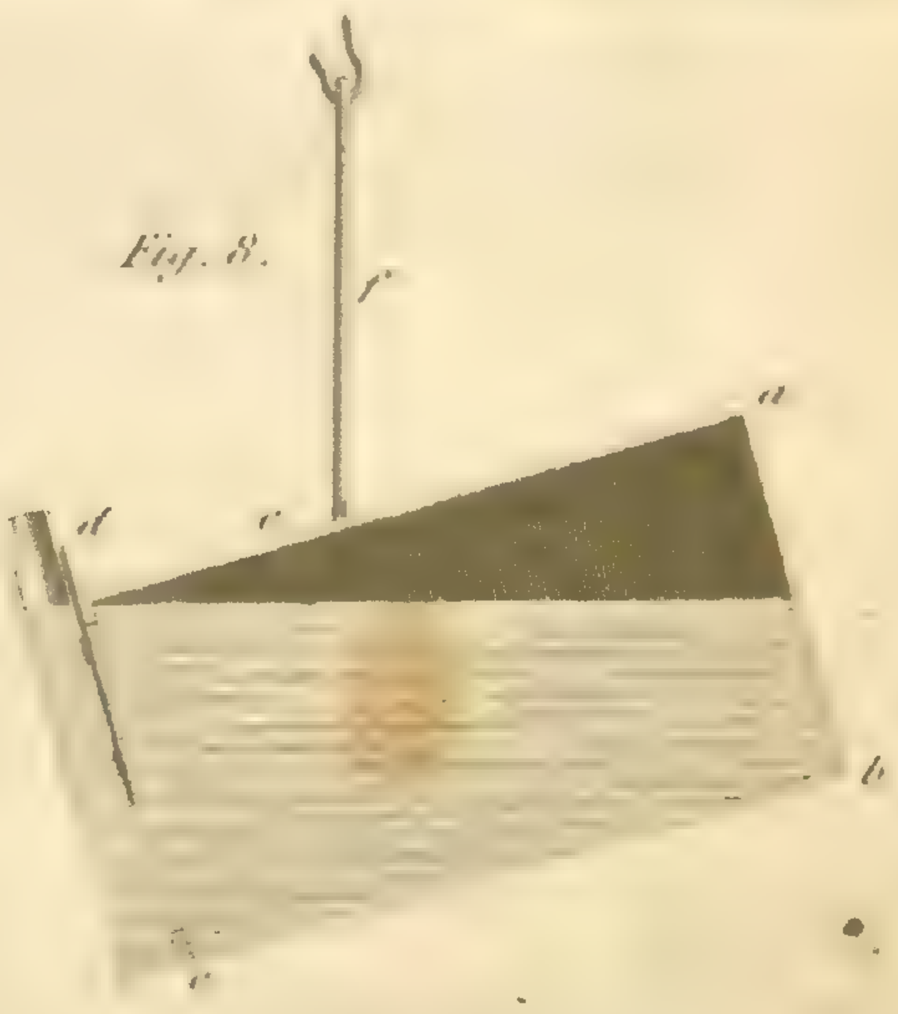


Fig. 8.



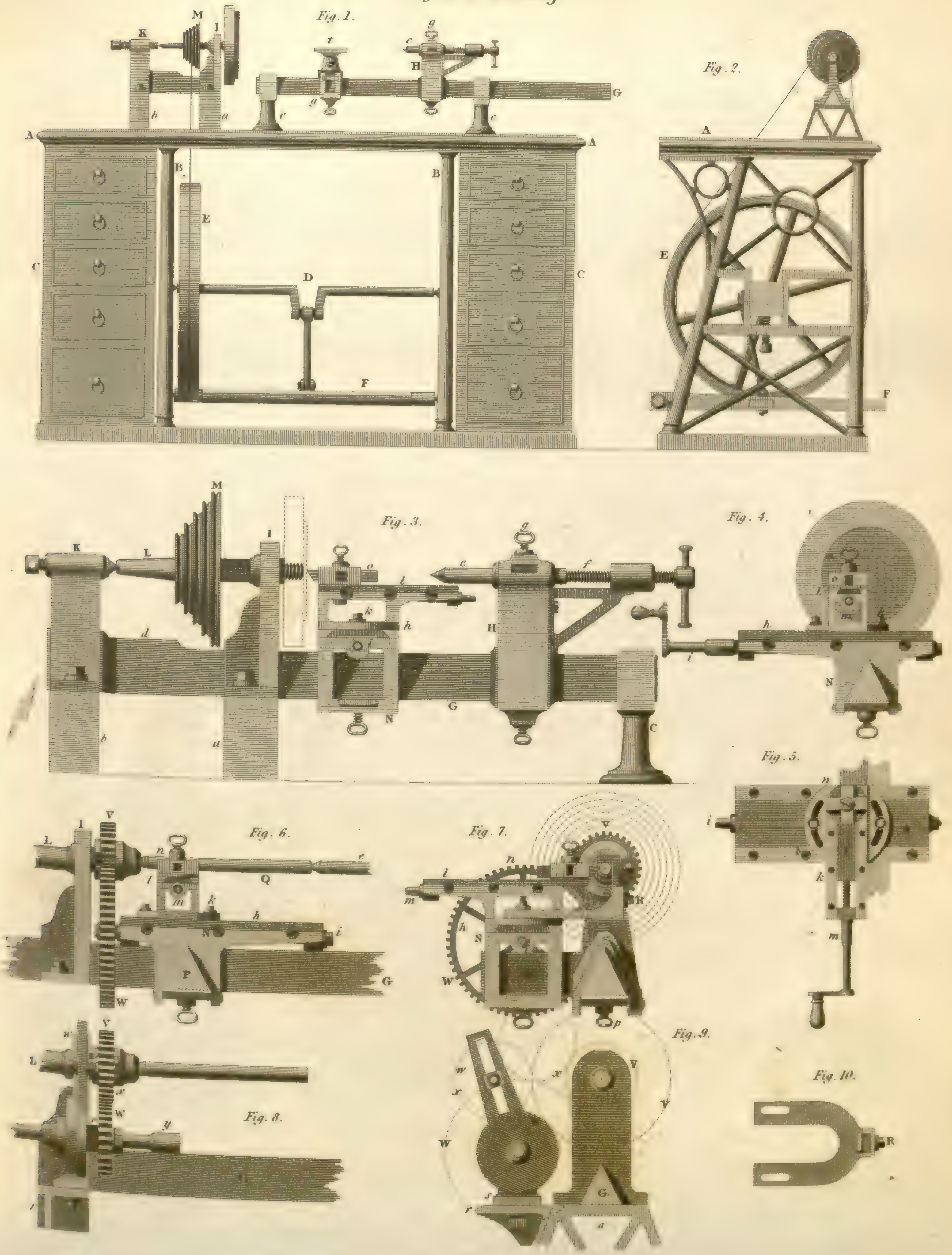
A. Farey del.

Published as the Act directs, 1817, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry sc.

LATHE.

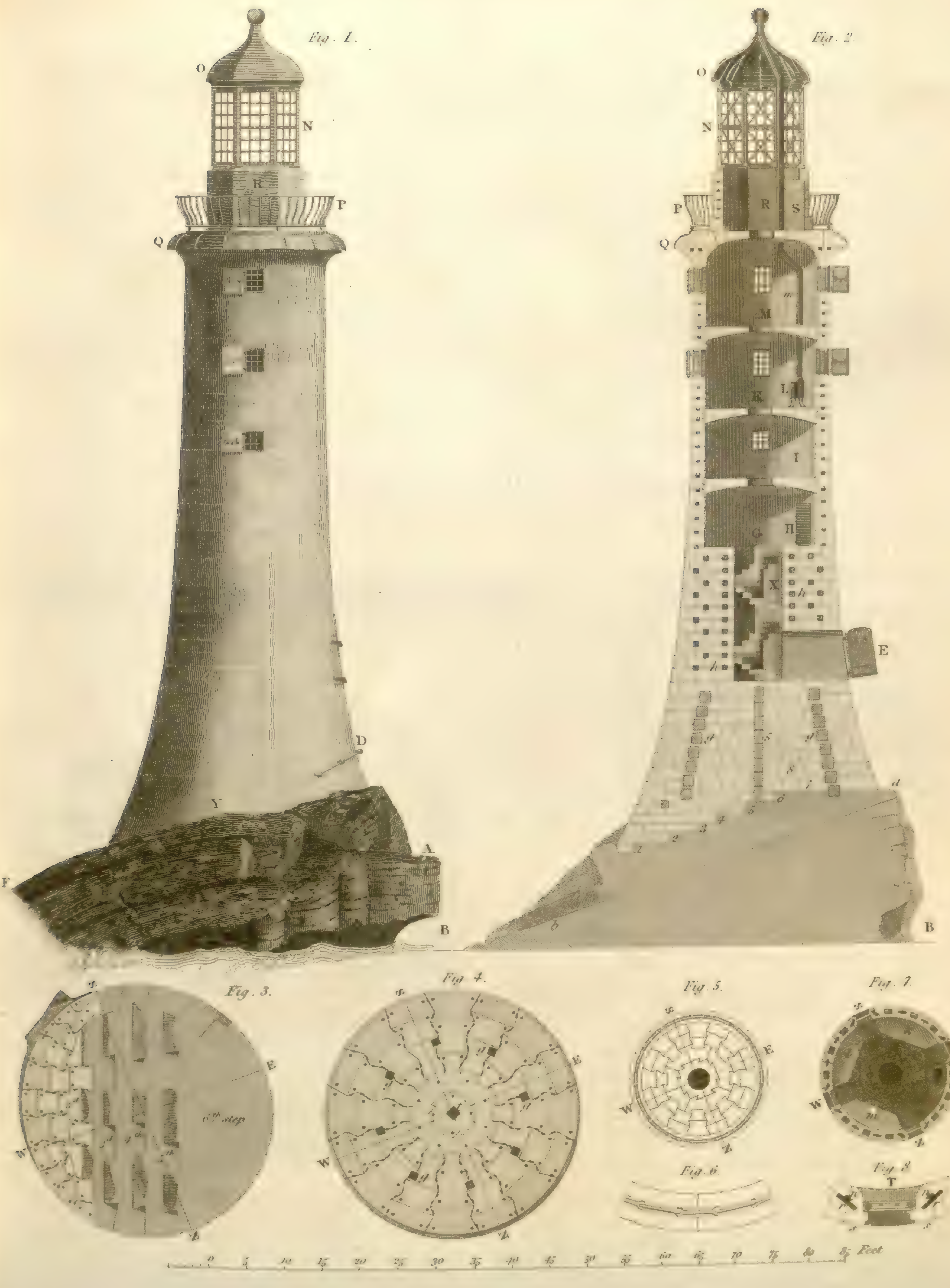
by Mr. H. Maudslay.



J. Farey del. Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

LIGHT HOUSE.

LIGHT HOUSE on the Eddystone Rock.



Farey delin. *Published as the Act directs, 1819, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.* *Lowry, Sc.*

MAGNETISM.

COMPASS.

Fig. 1.

Fig. 2.

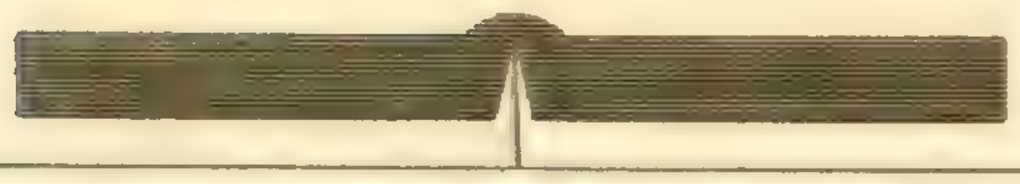


Fig. 3.

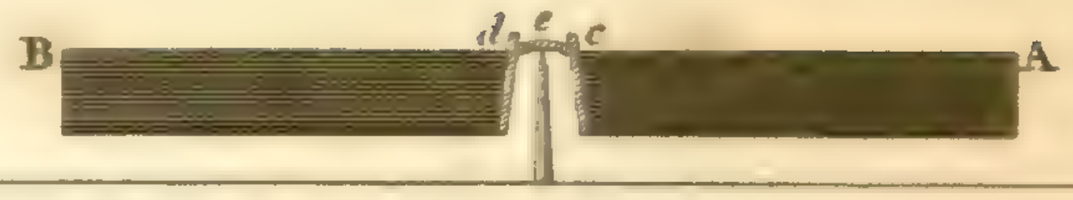


Fig. 5.

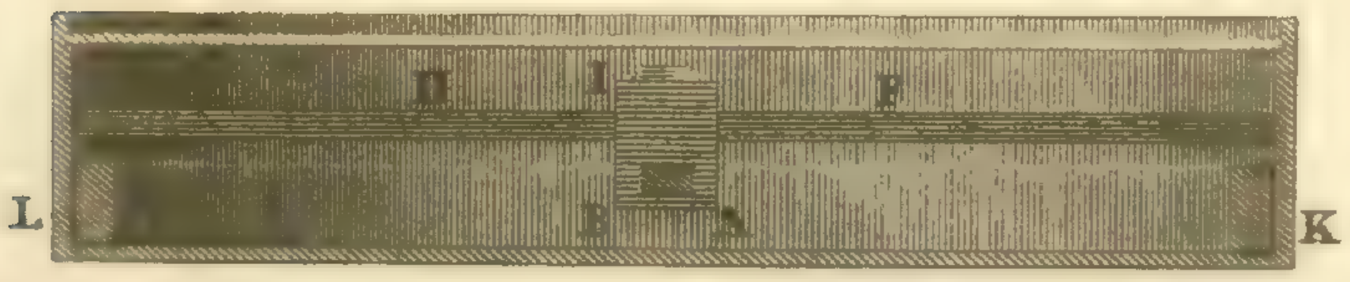


Fig. 4.

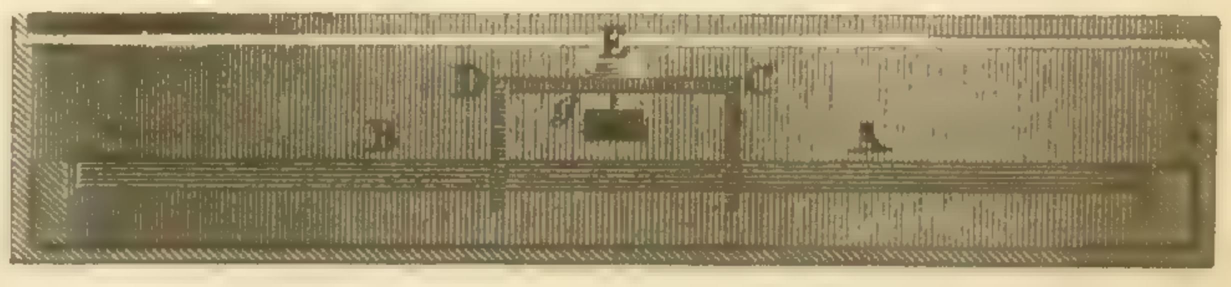


Fig. 8.

Fig. 9.

Fig. 7.

Fig. 6.

Fig. 11.

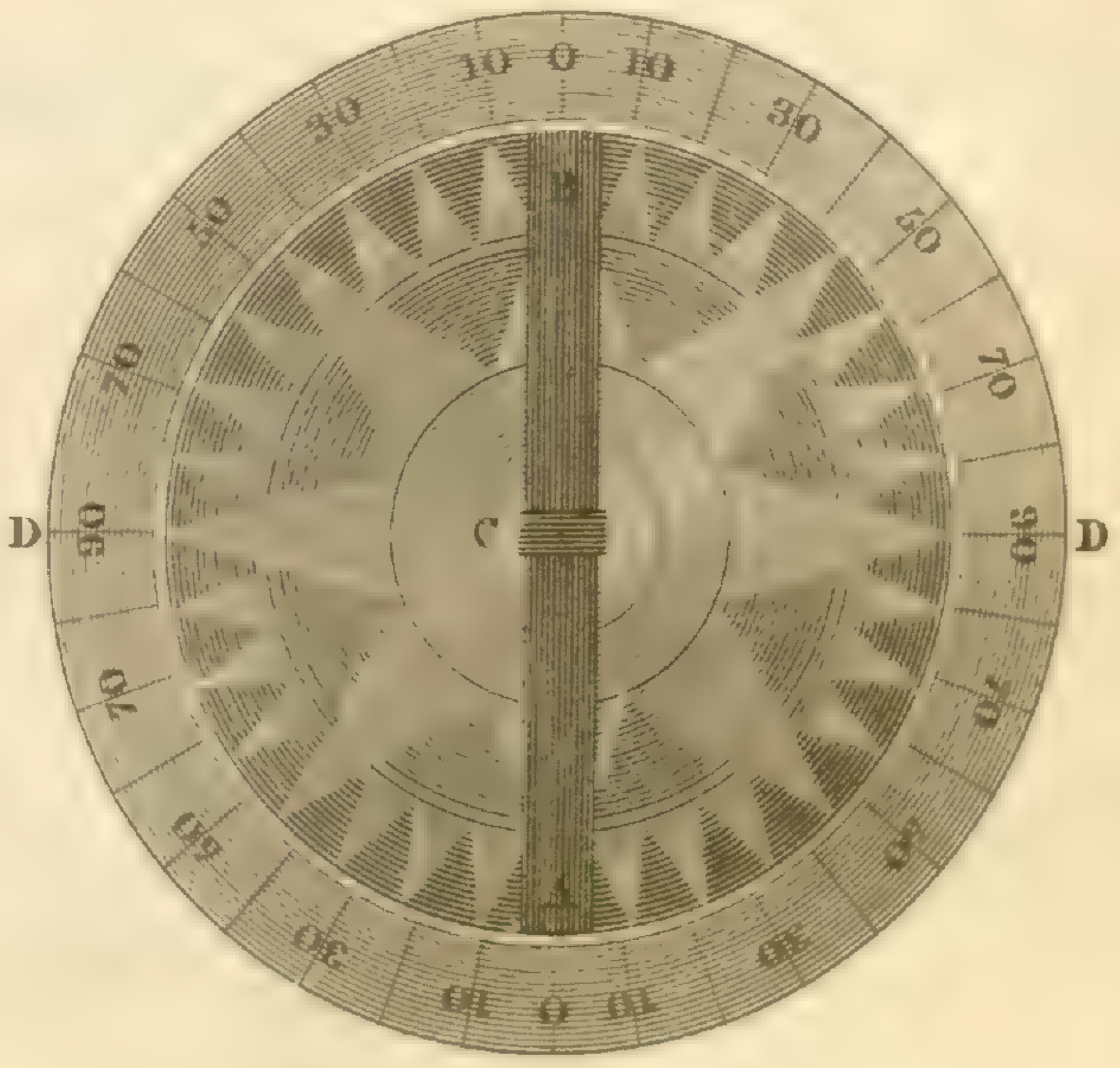


Fig. 10.

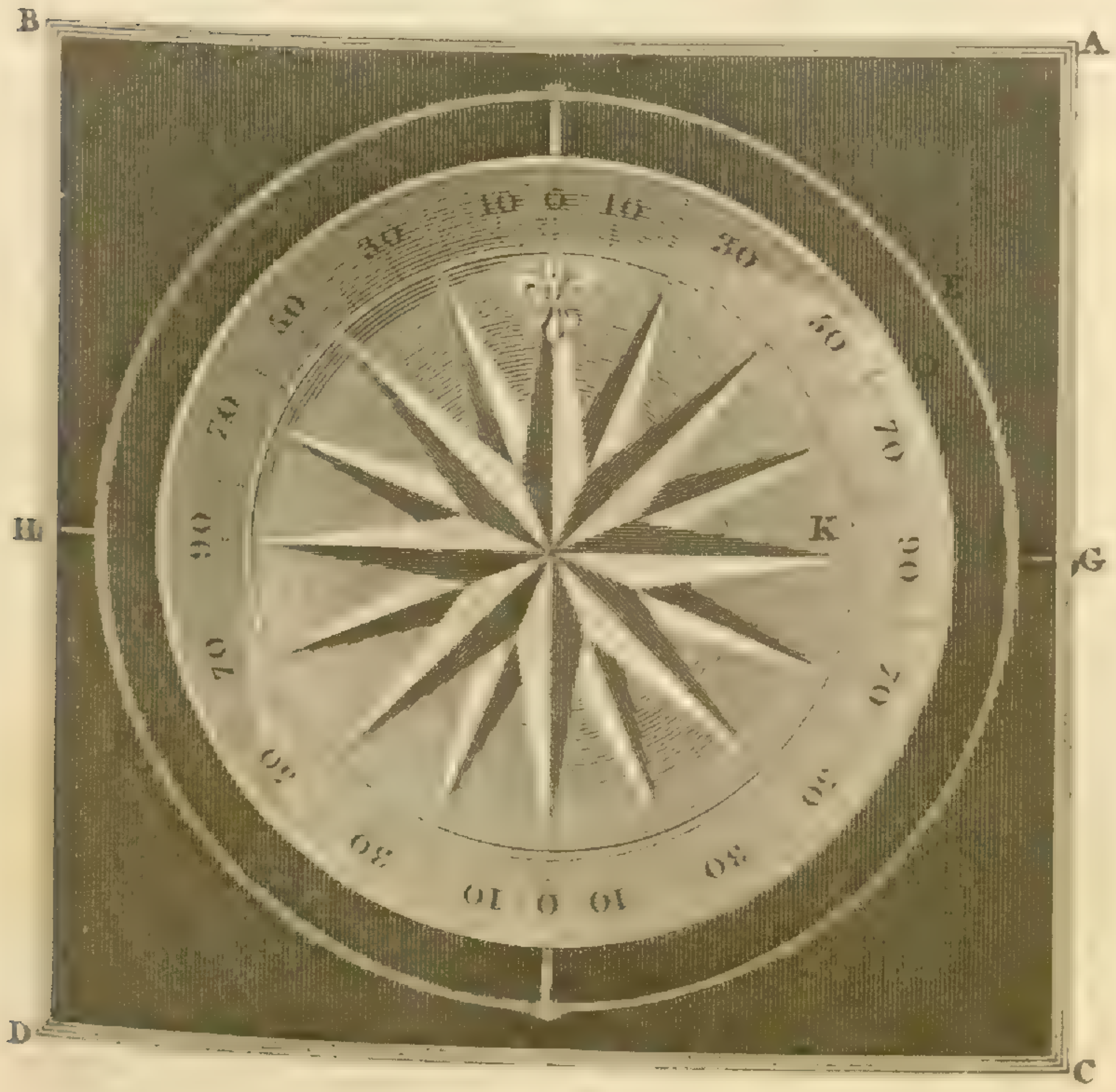
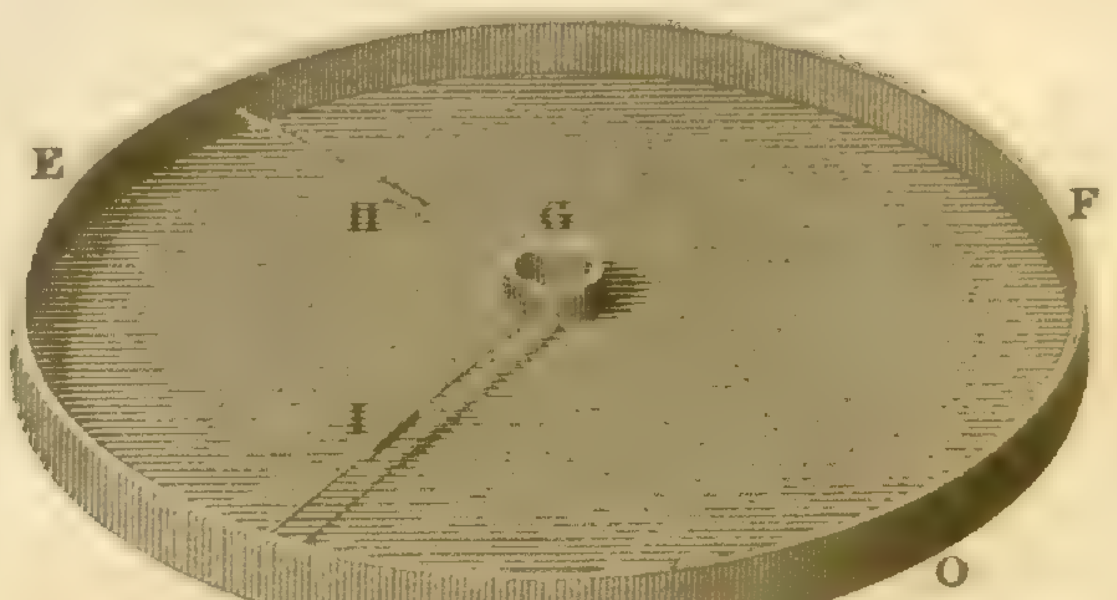


Fig. 12.



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Engraved by Wilson Lowry.

COMPASS.

Fig. 14

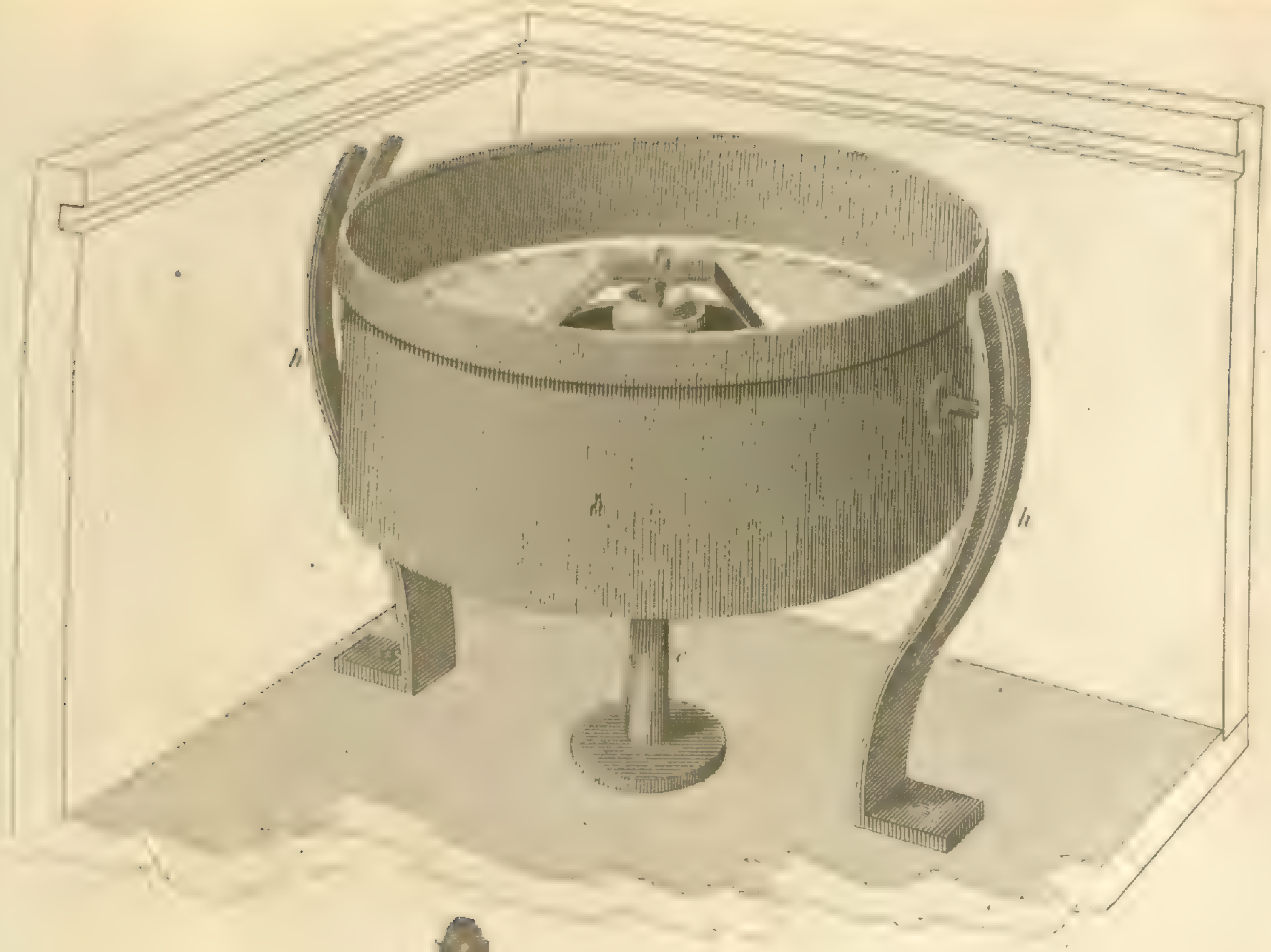


Fig. 13.

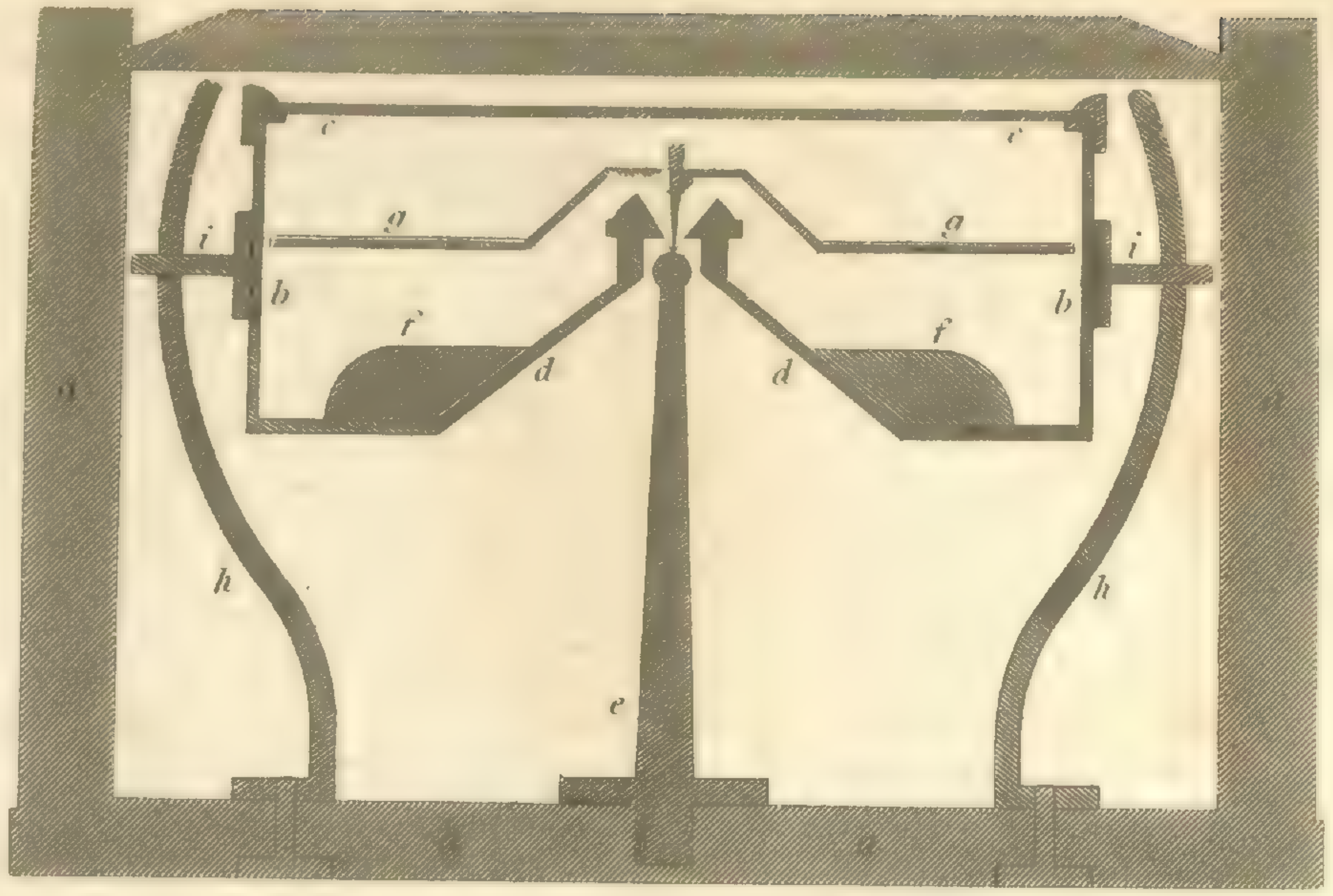


Fig. 15.

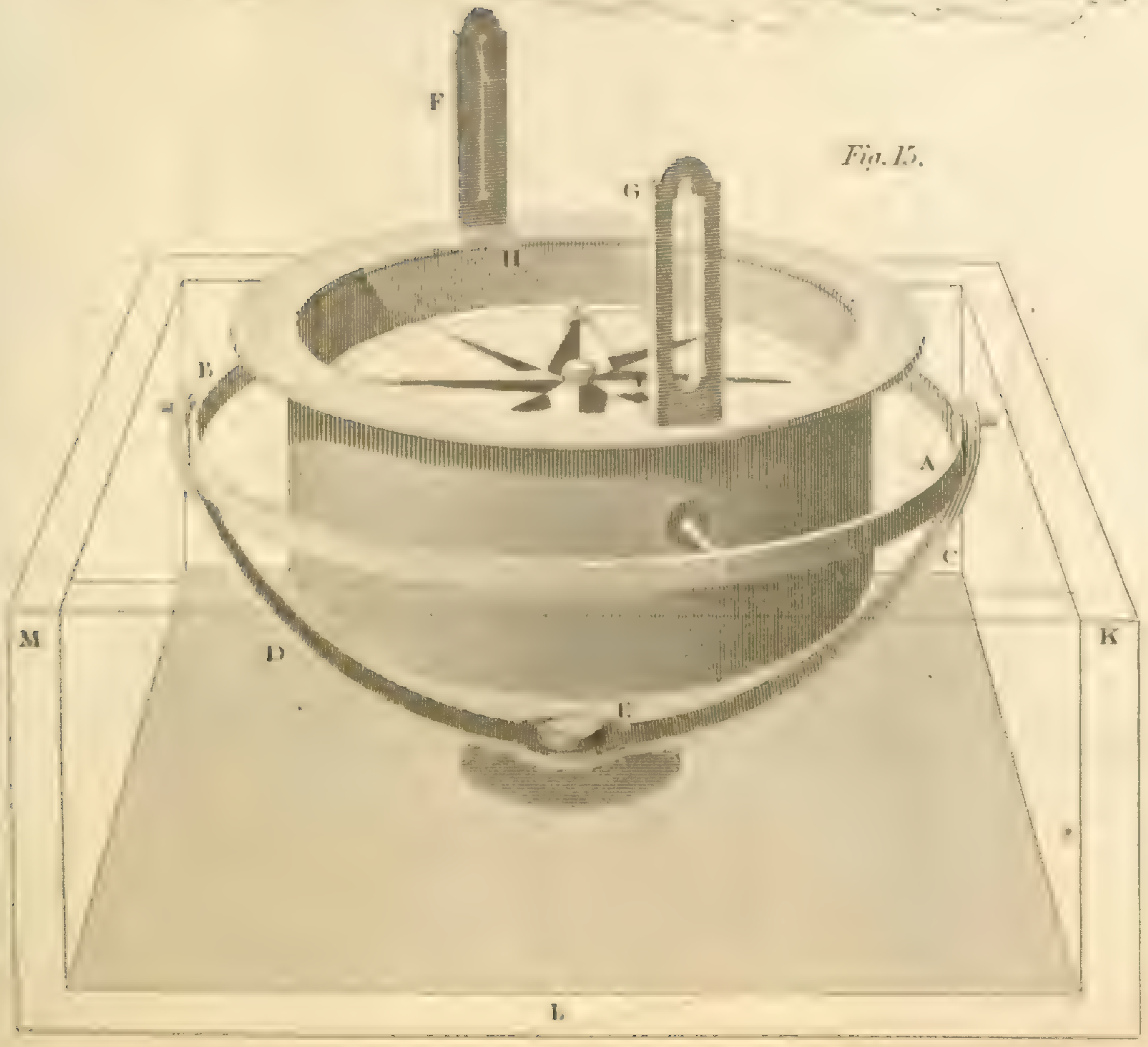
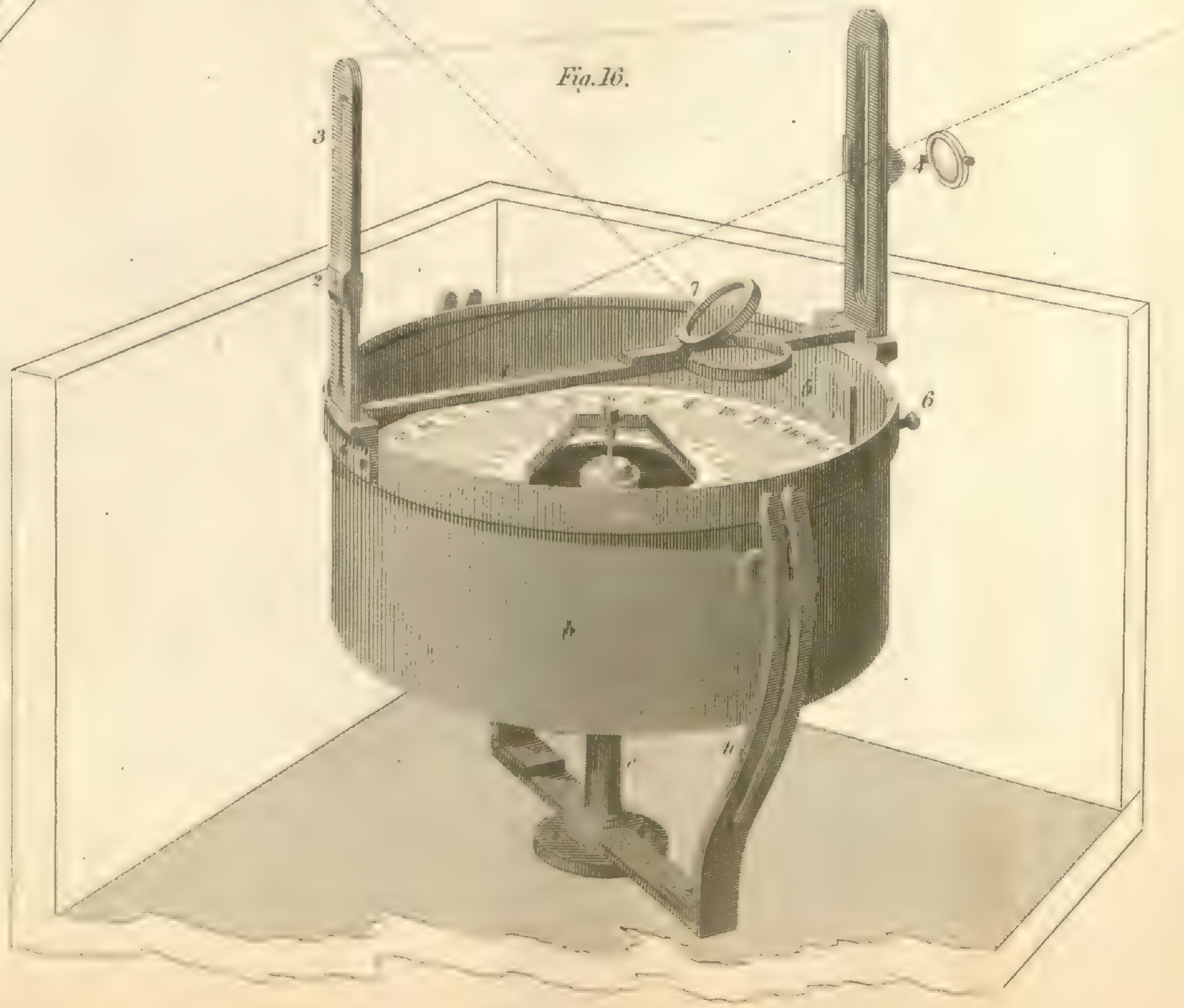


Fig. 16.



VARIATION COMPASS.

Fig. 17.

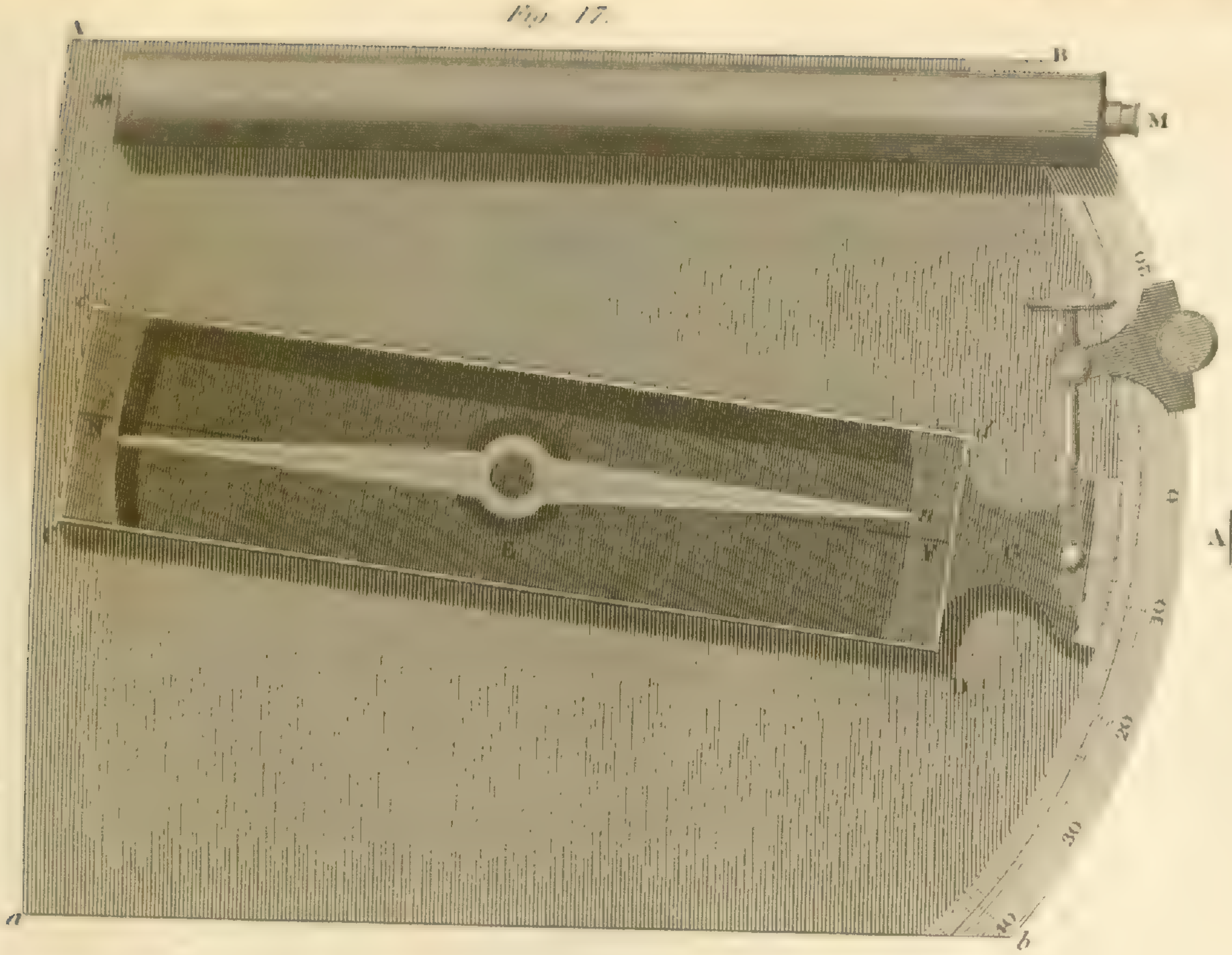


Fig. 19.

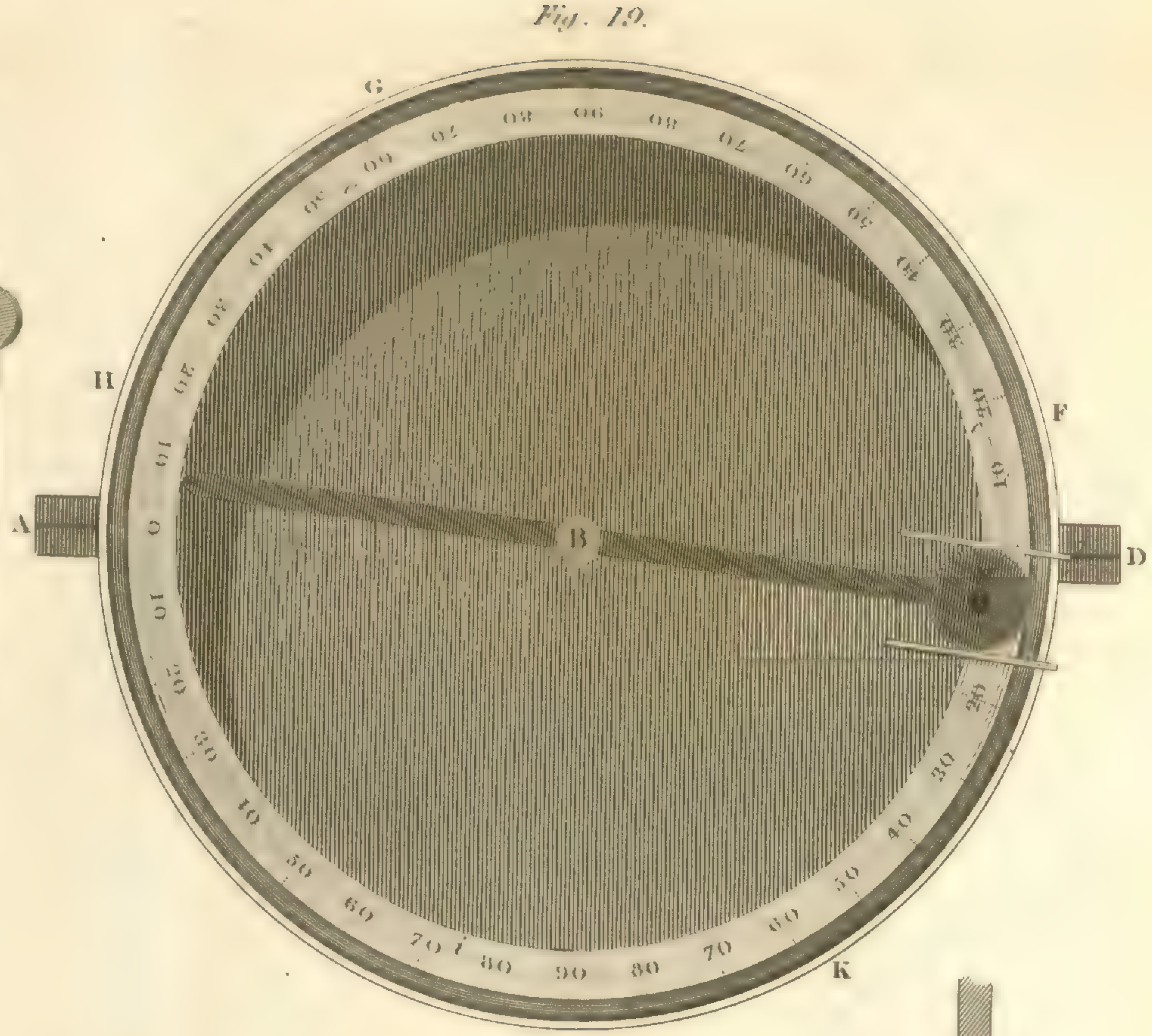
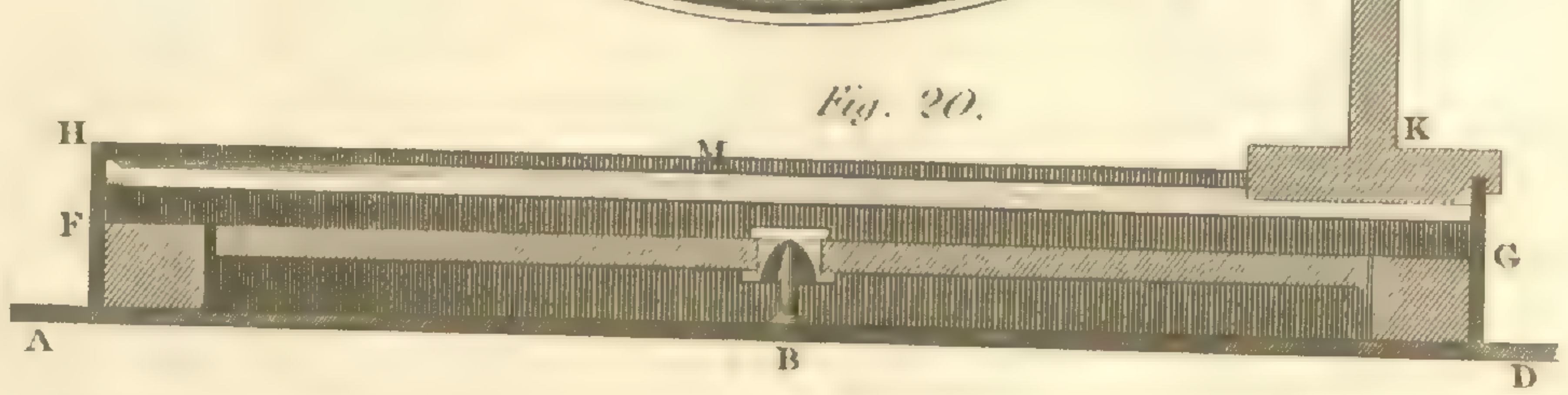


Fig. 20.



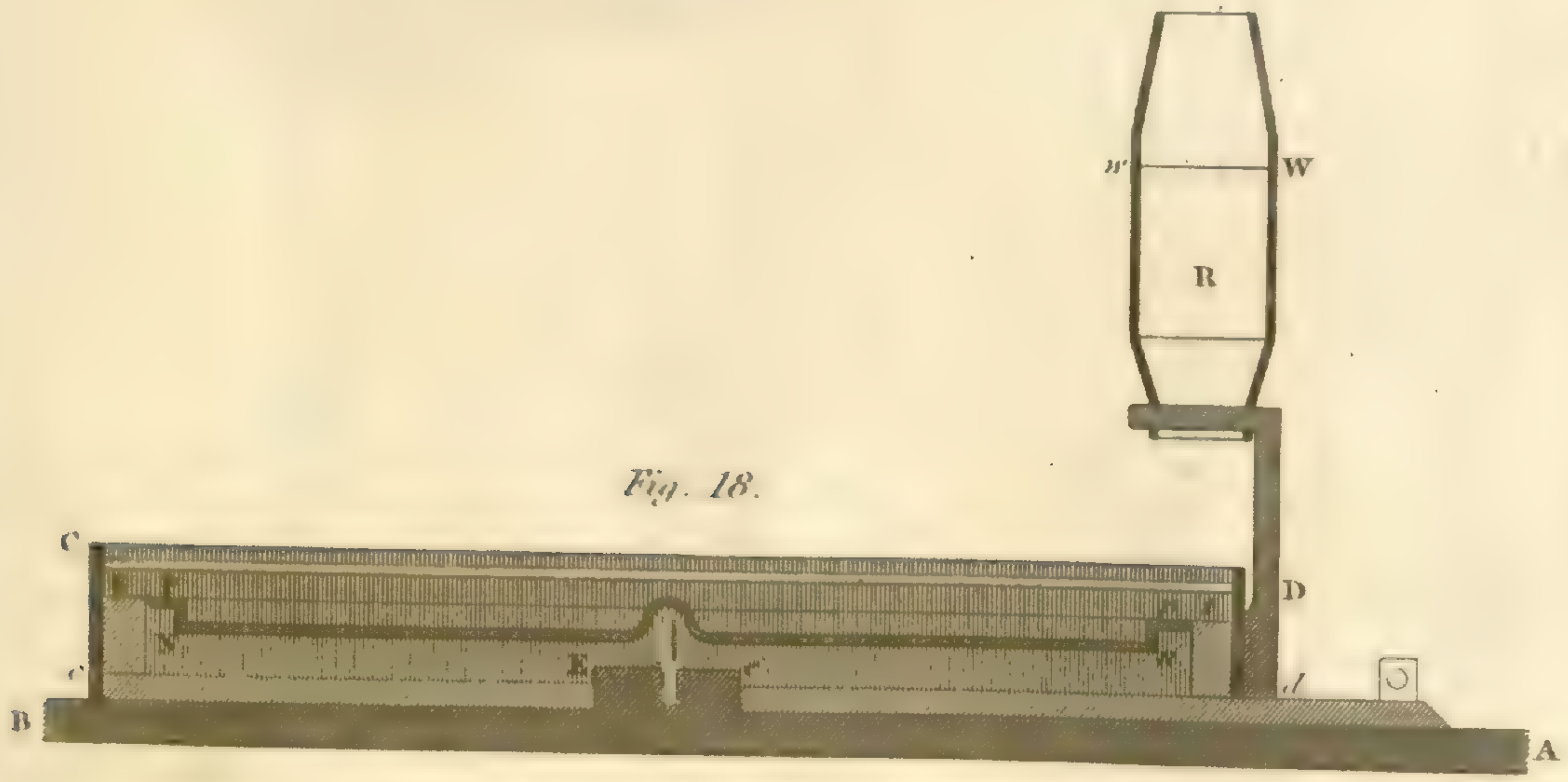


Fig. 18.

Fig. 22.

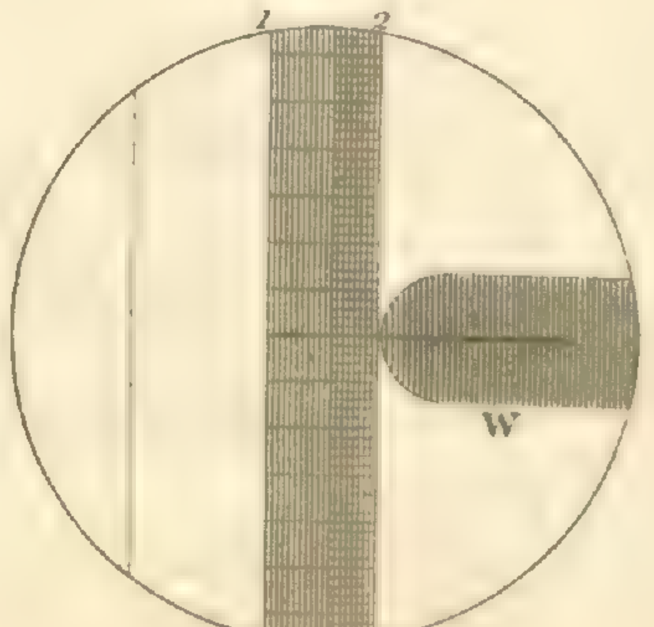
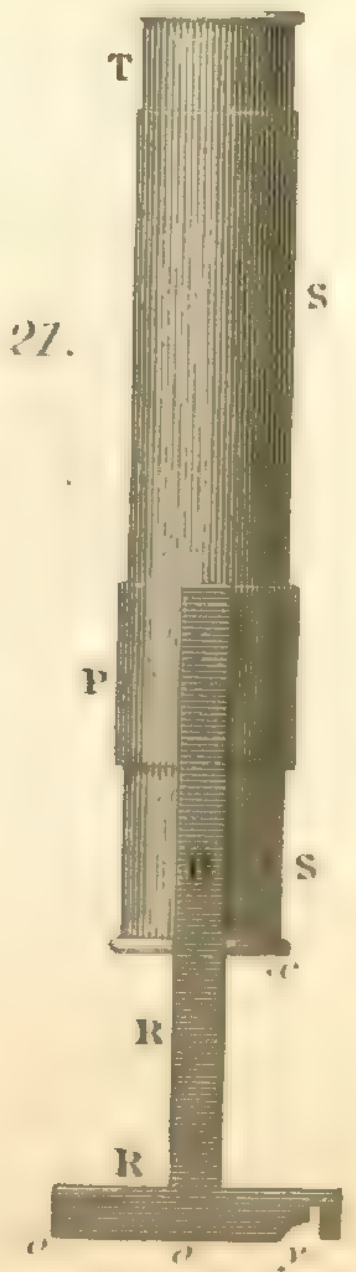


Fig. 21.



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Engraved by Wilson Lowry.

MAGNETISM.

DIPPING.

Fig. 22.

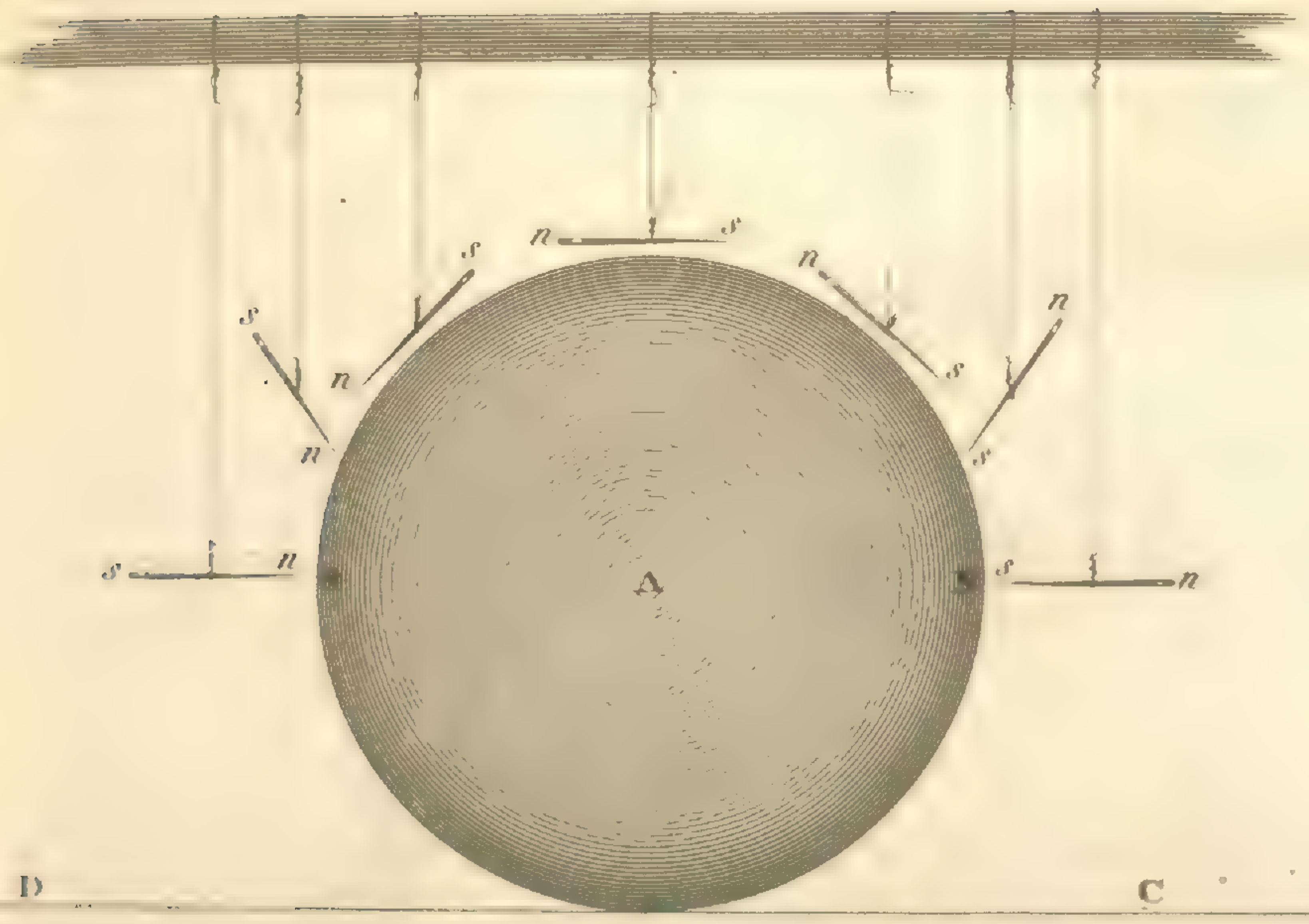
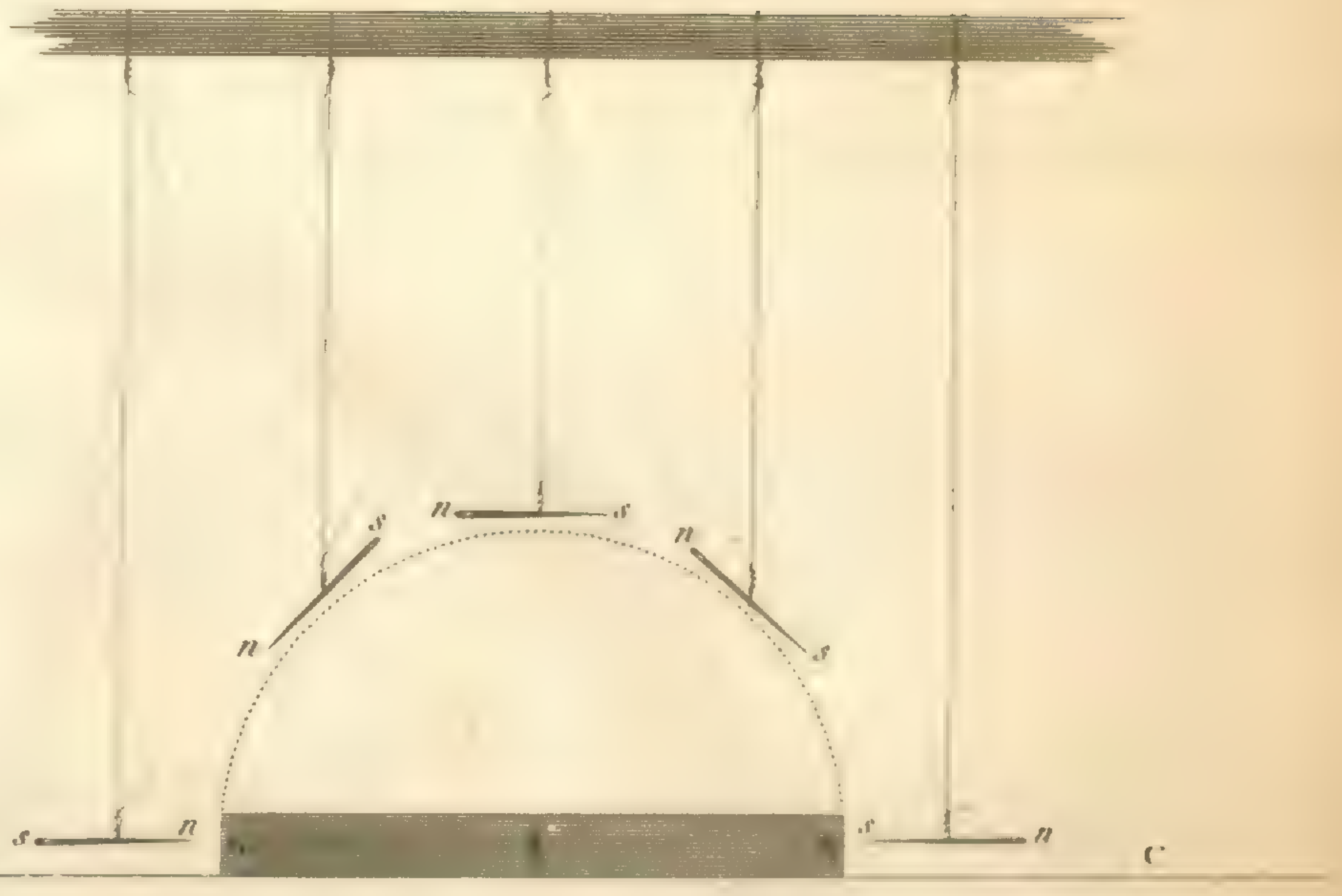


Fig. 23.



(for Fig. 27, see the next Plate)

Fig. 24.

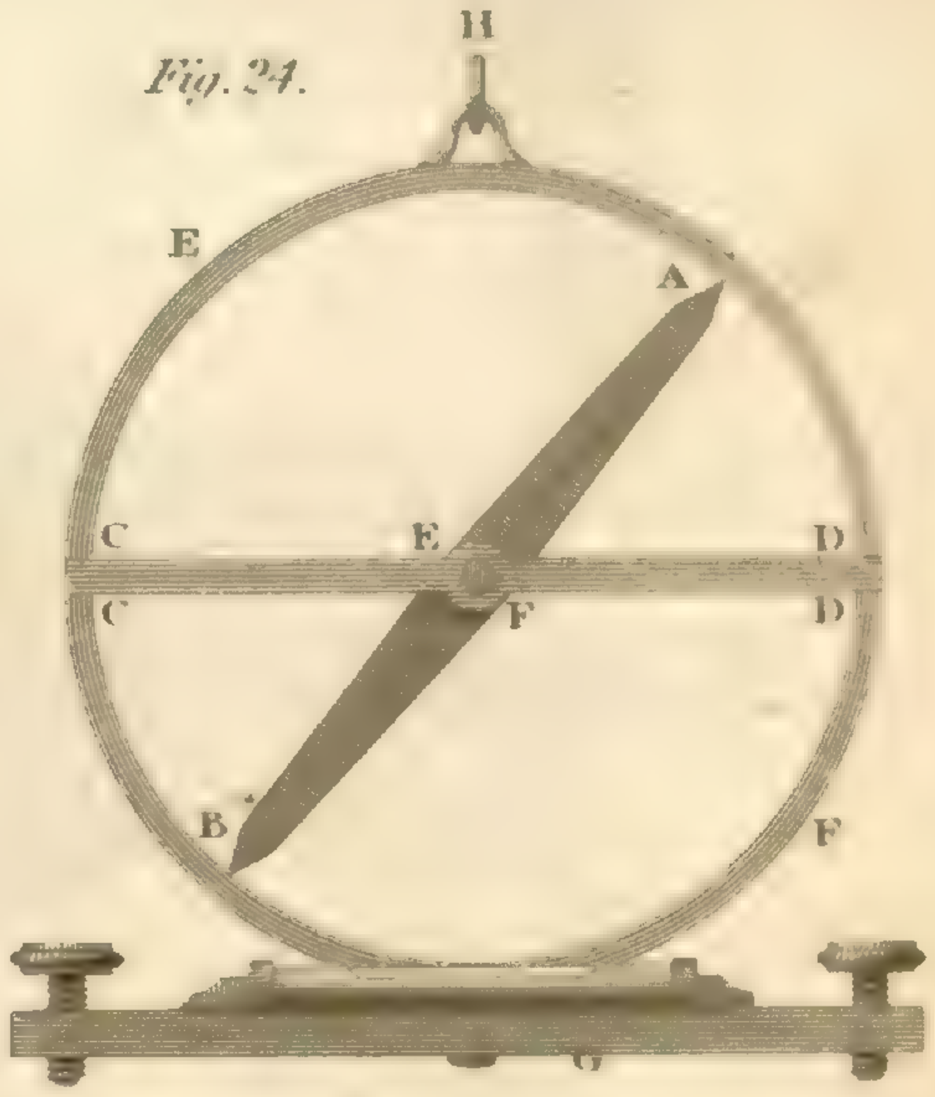


Fig. 29.

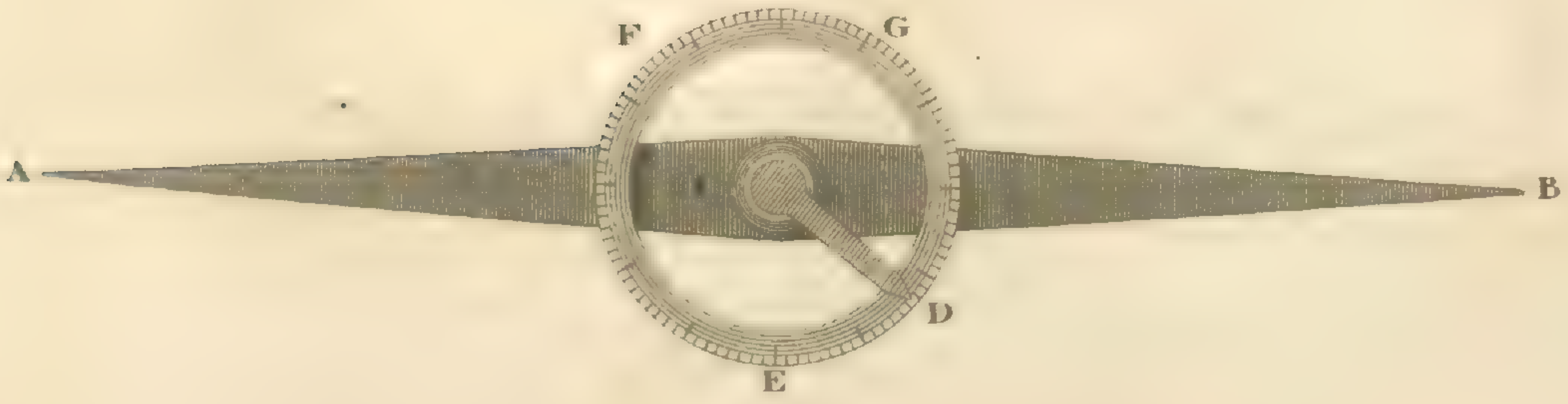


Fig. 30.
Dipping Needle by Dr. Lorimer

Fig. 25.

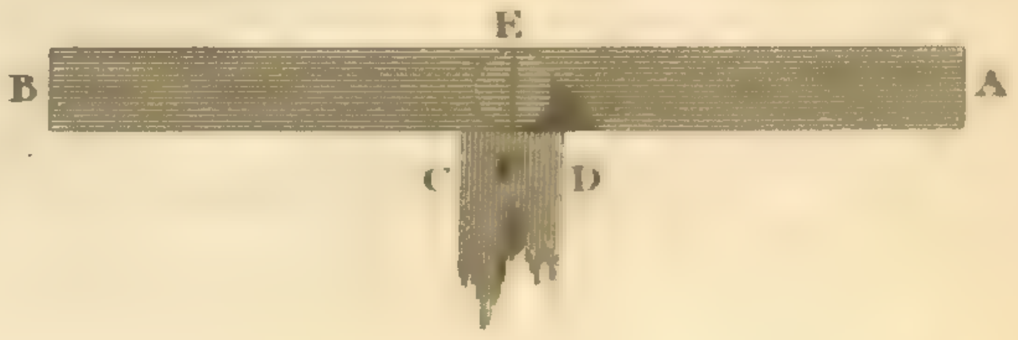
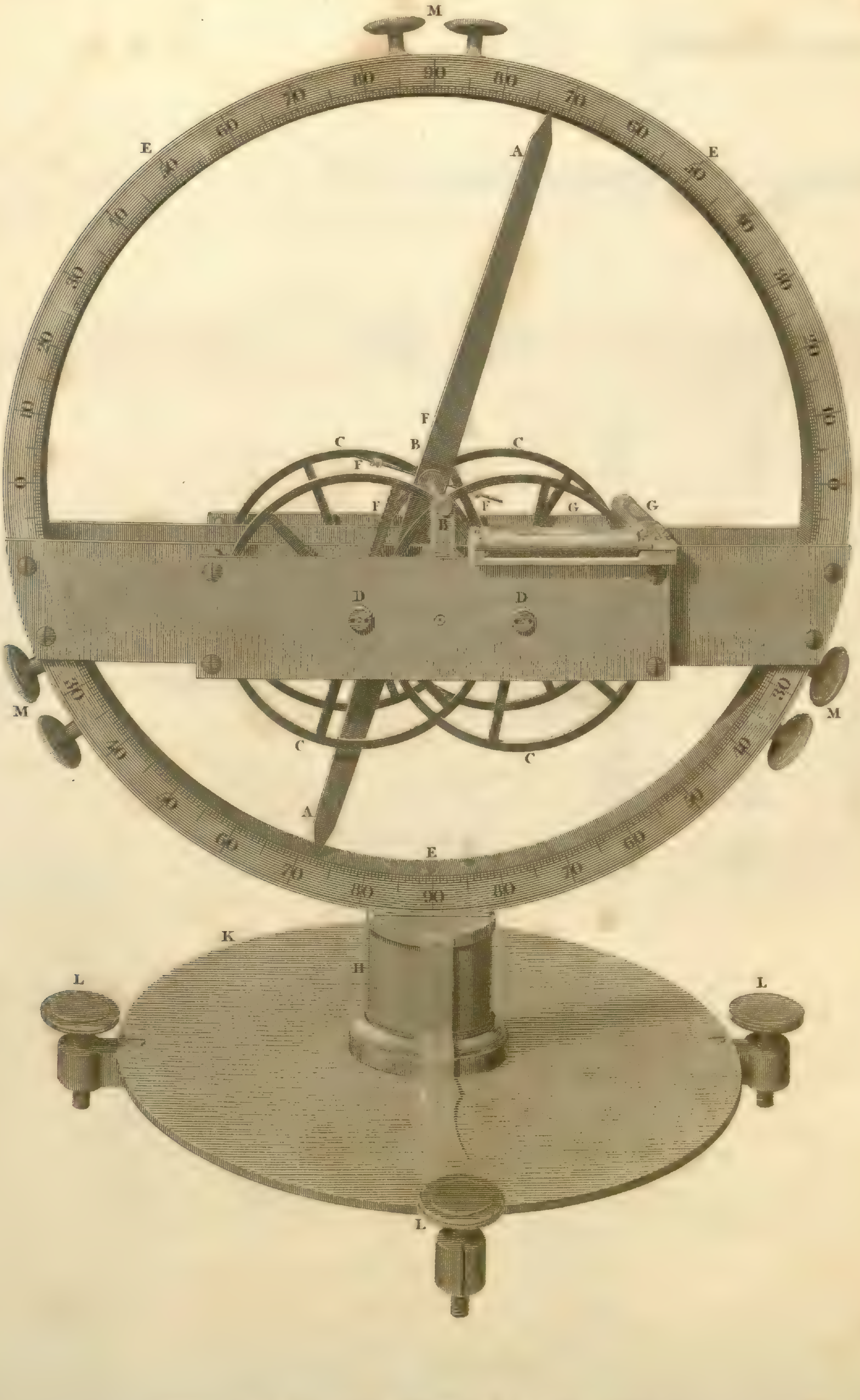


Fig. 26.

Fig. 28.

Published as the Act directs 1810, by Longman, Hurst, Rees, Orme, & Brown Paternoster Row London.

Dipping Needle made by M.r Nairne for the Board of Longitude, on the Plan of the Rev.d M.r Mitchel.



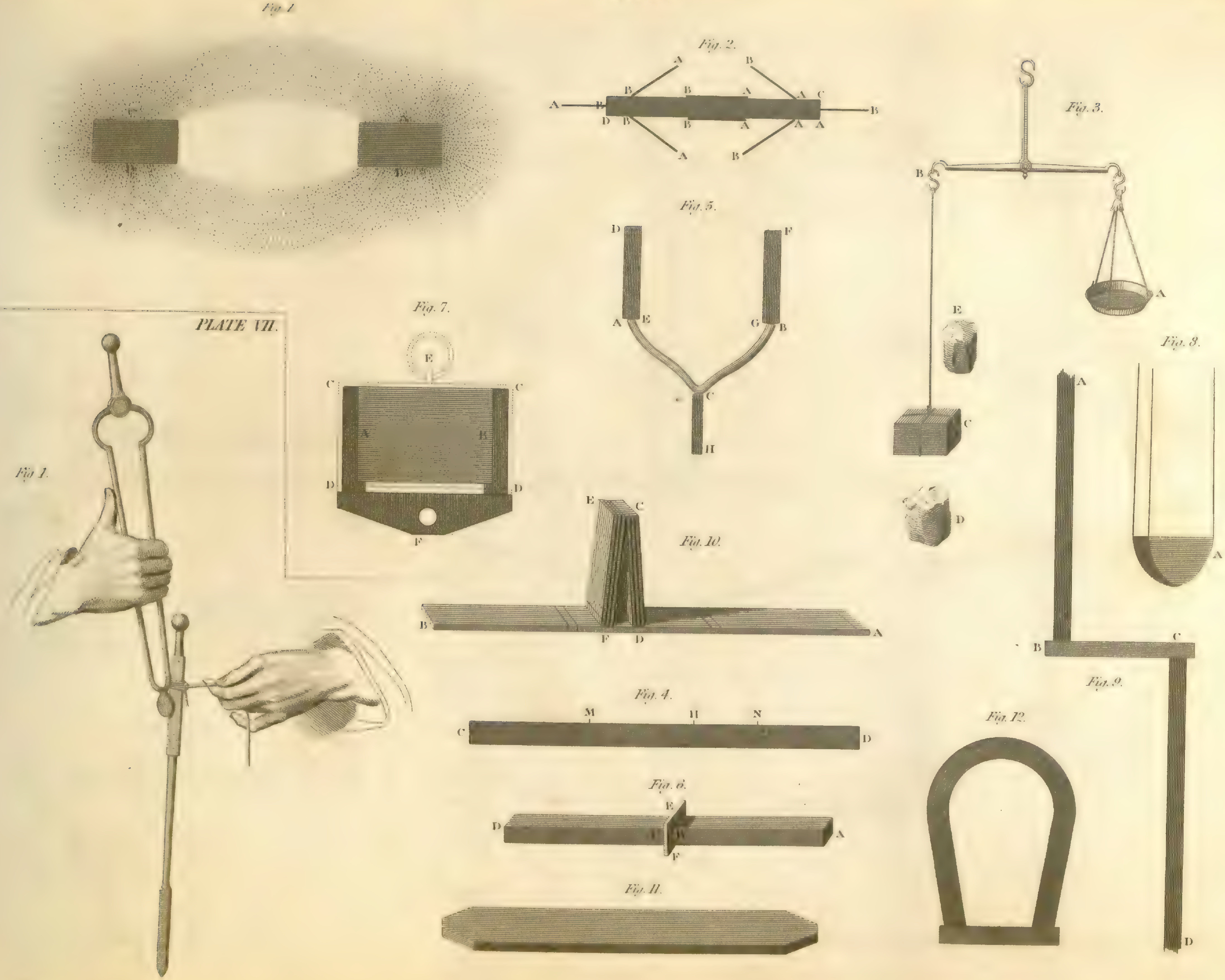
Published as the Act directs, 1810, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

MAGNETISM.

MAGNET.

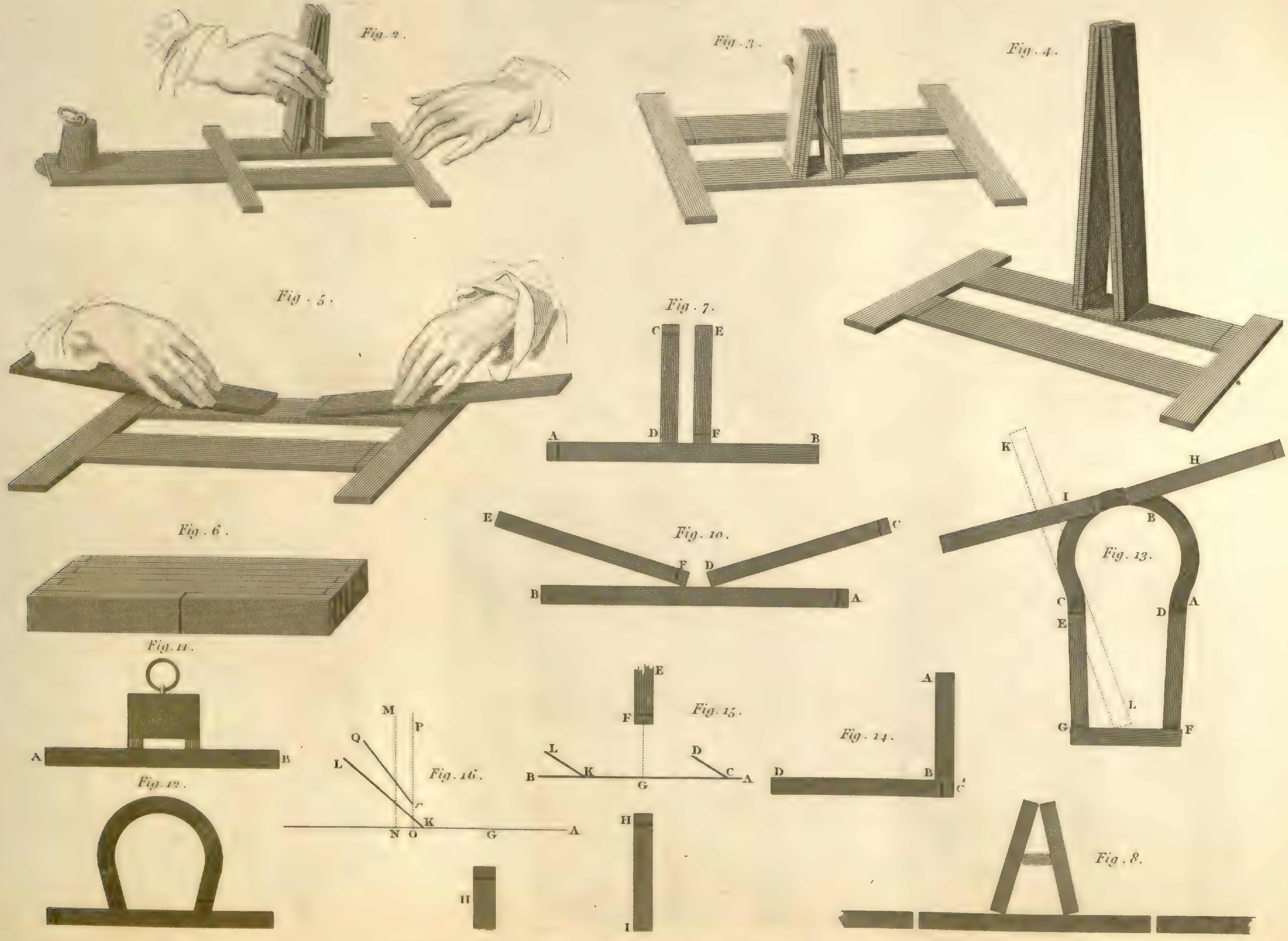
PLATE VI & VII.



Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row, London.

Lowry sculp.

MAGNET.



Published as the Act directs, 1812, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Engraved by W. Lowry.

Fig. 2.
Incertain.

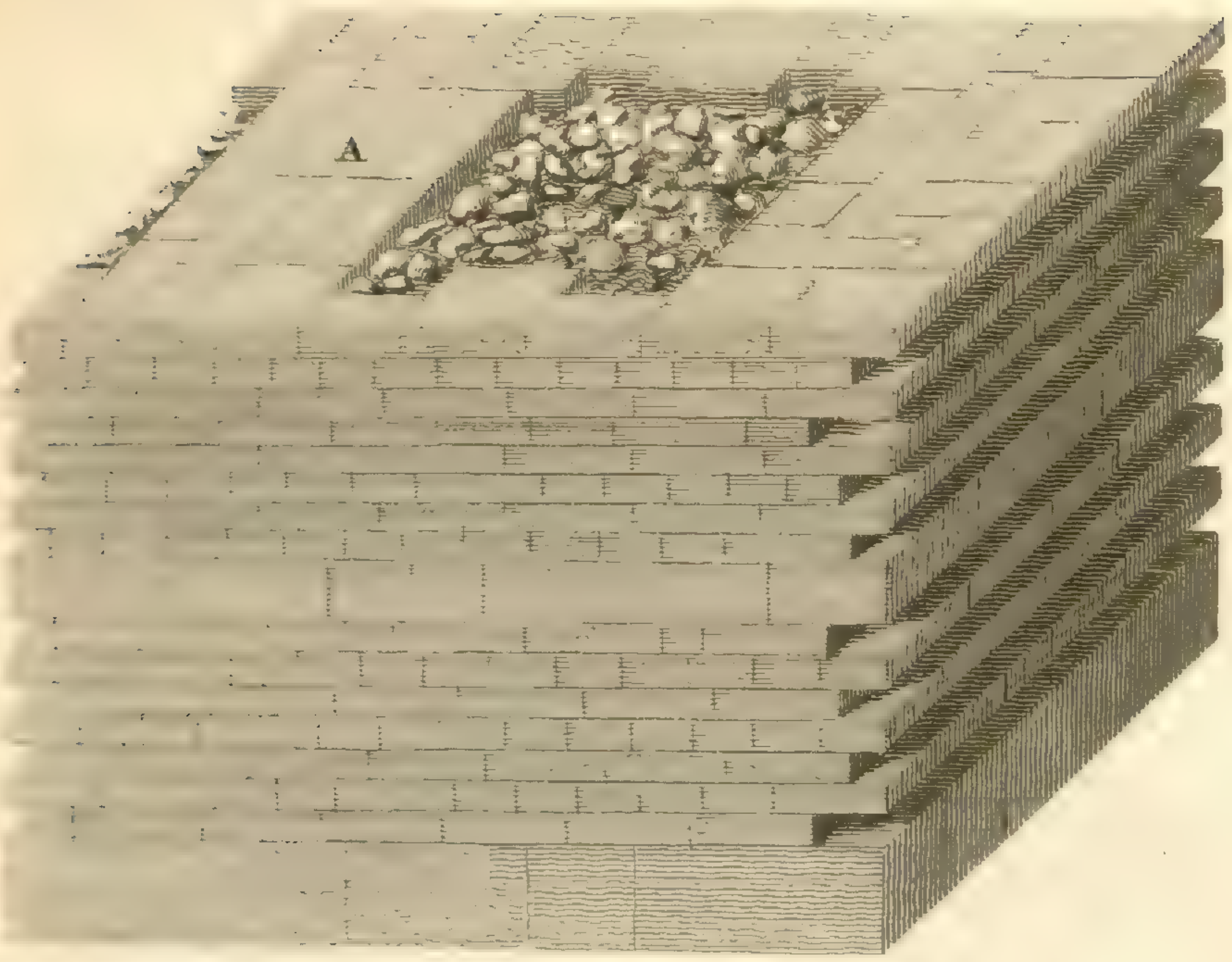


Fig. 1.
Reticulated.

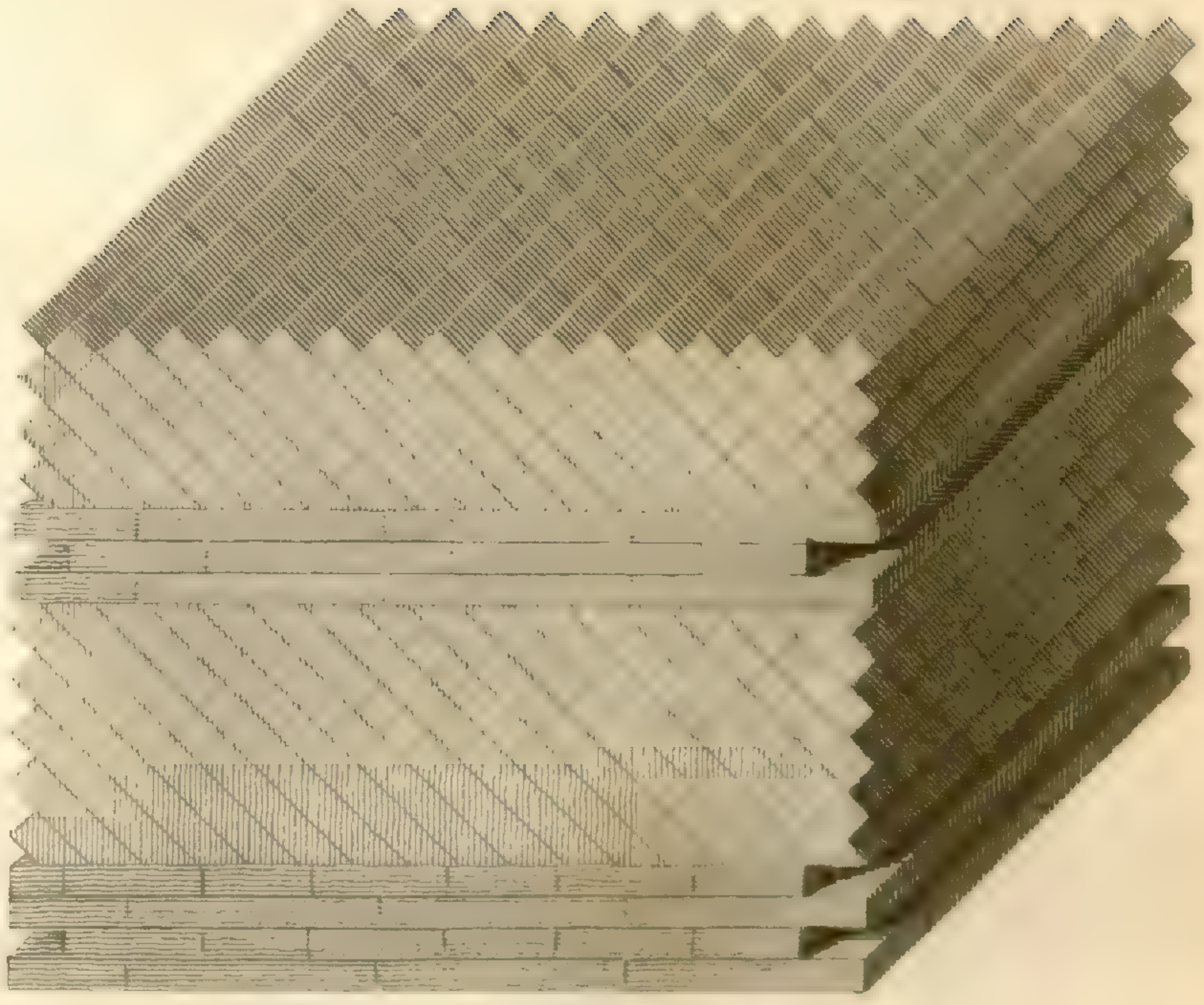


Fig. 4.
Pseudisodomum.

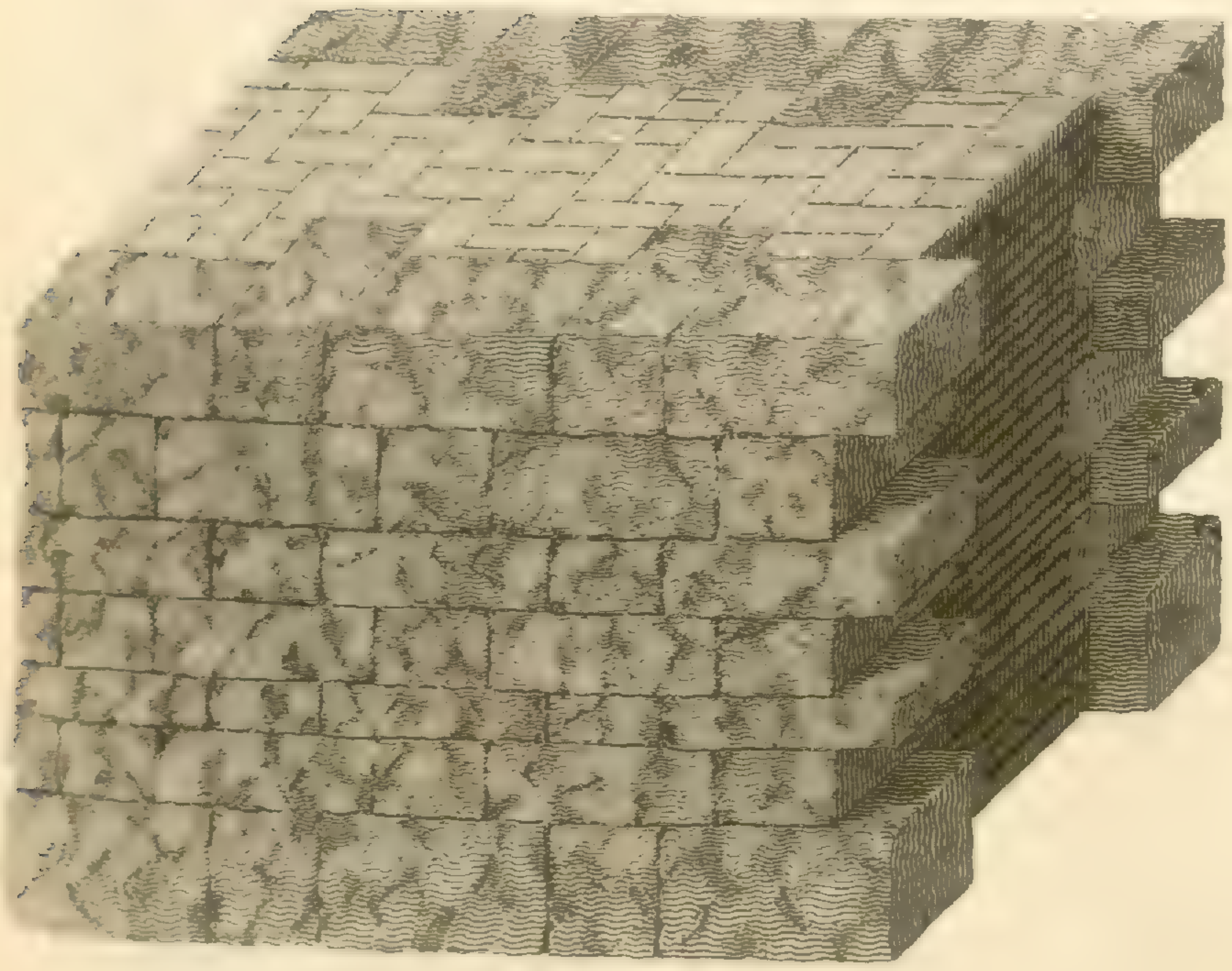


Fig. 3.
Isodomum.

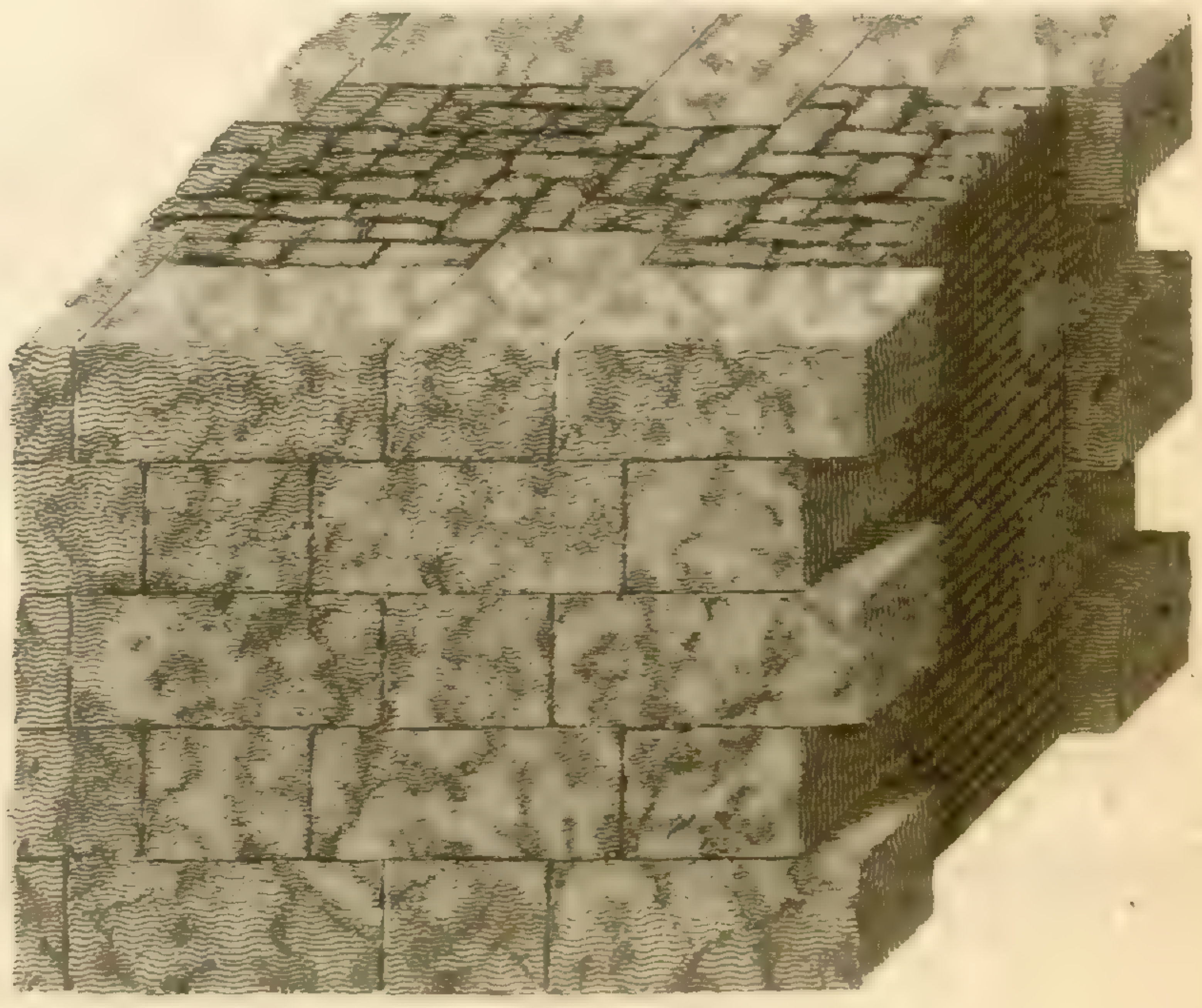


Fig. 6.
Greek Emplection.

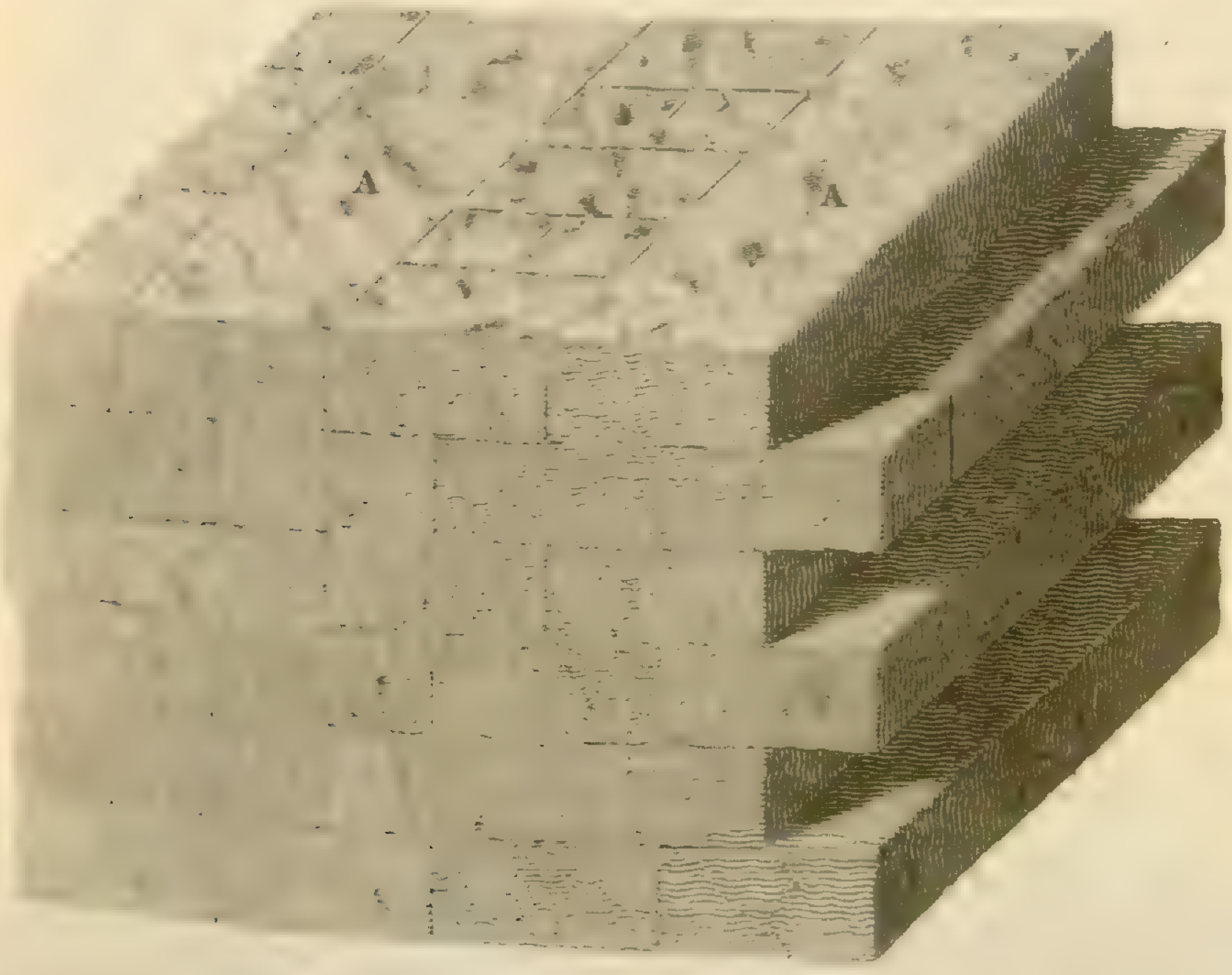
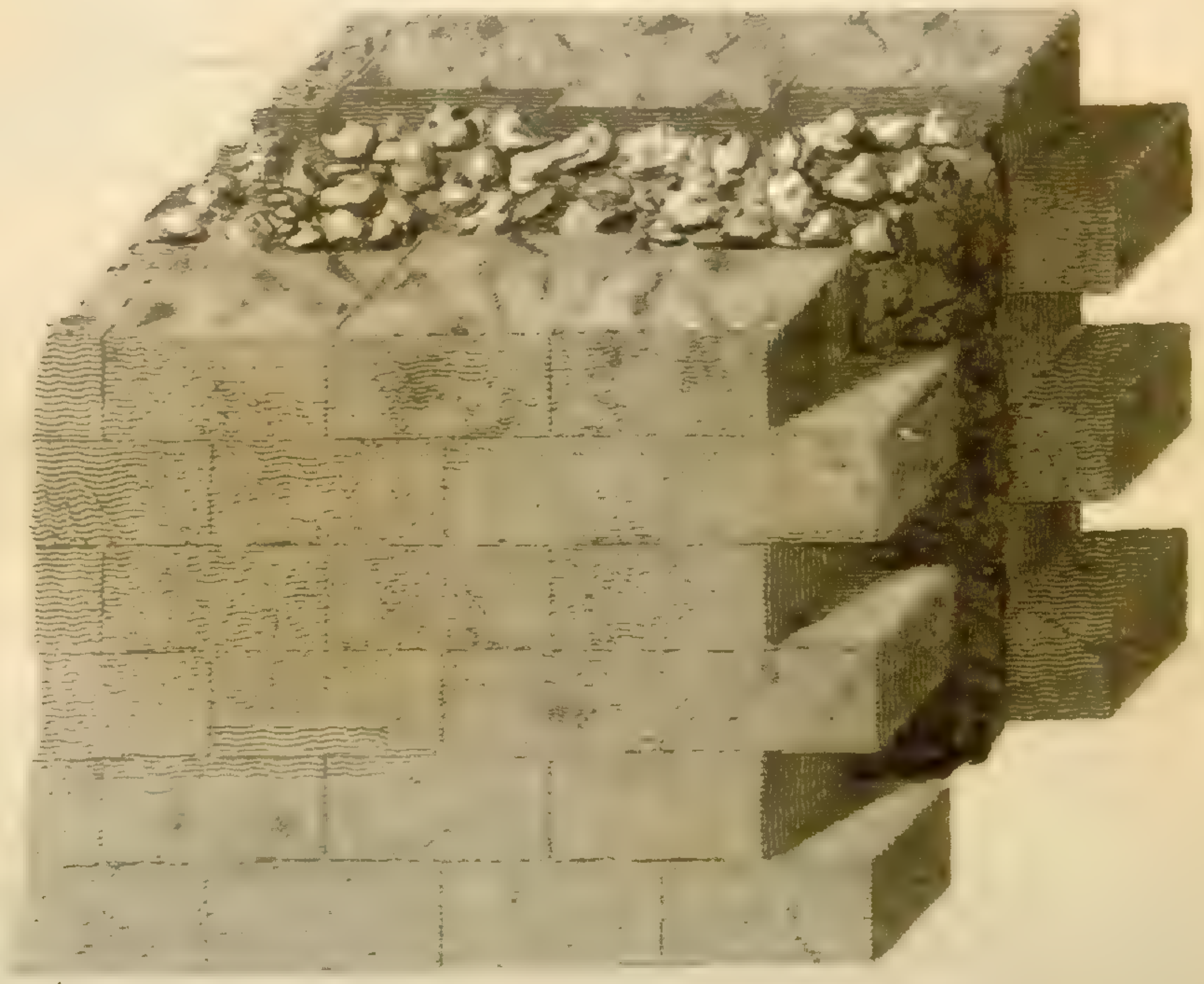


Fig. 5.
Roman Emplection.



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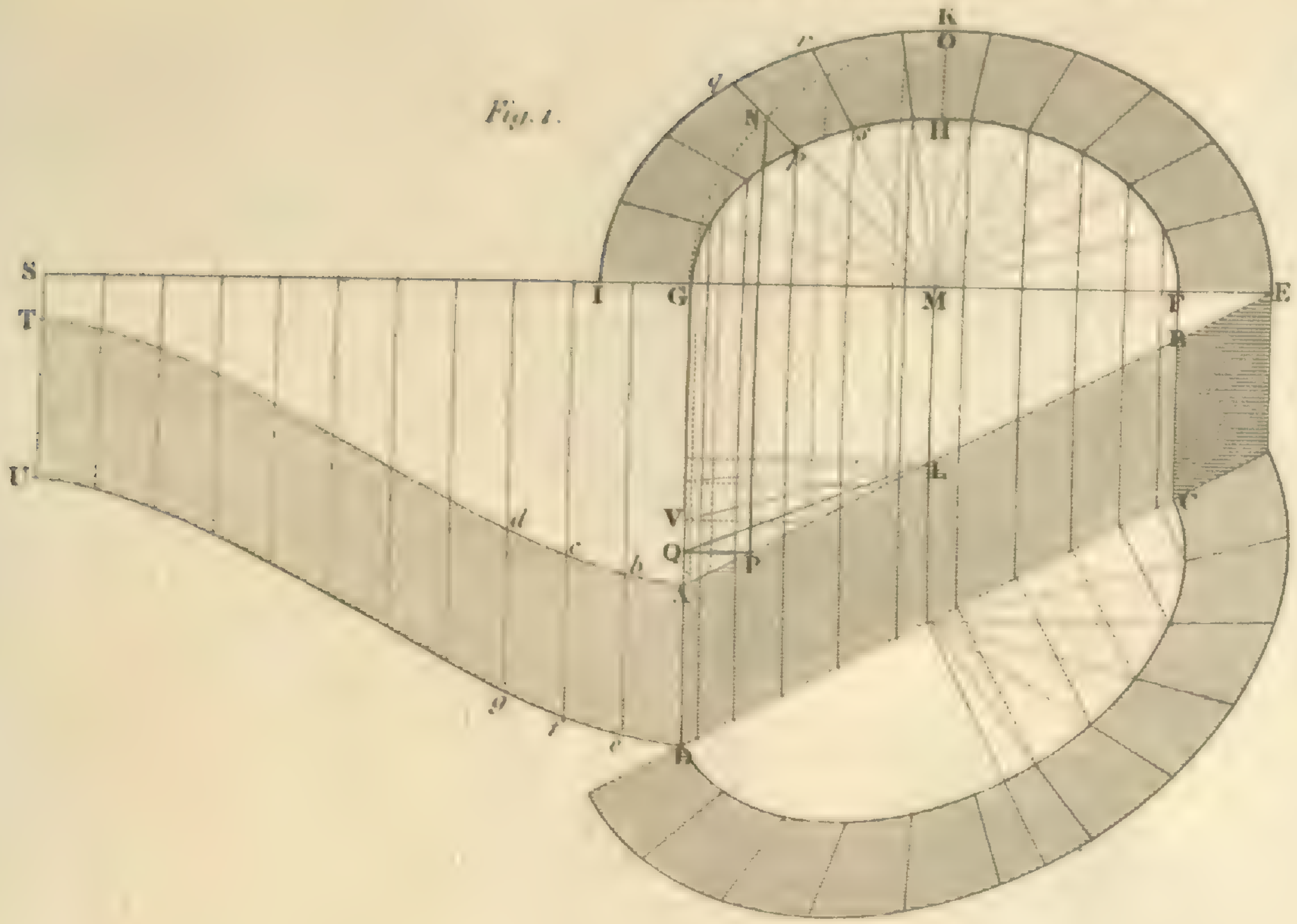
MASONRY.

ARCHES.

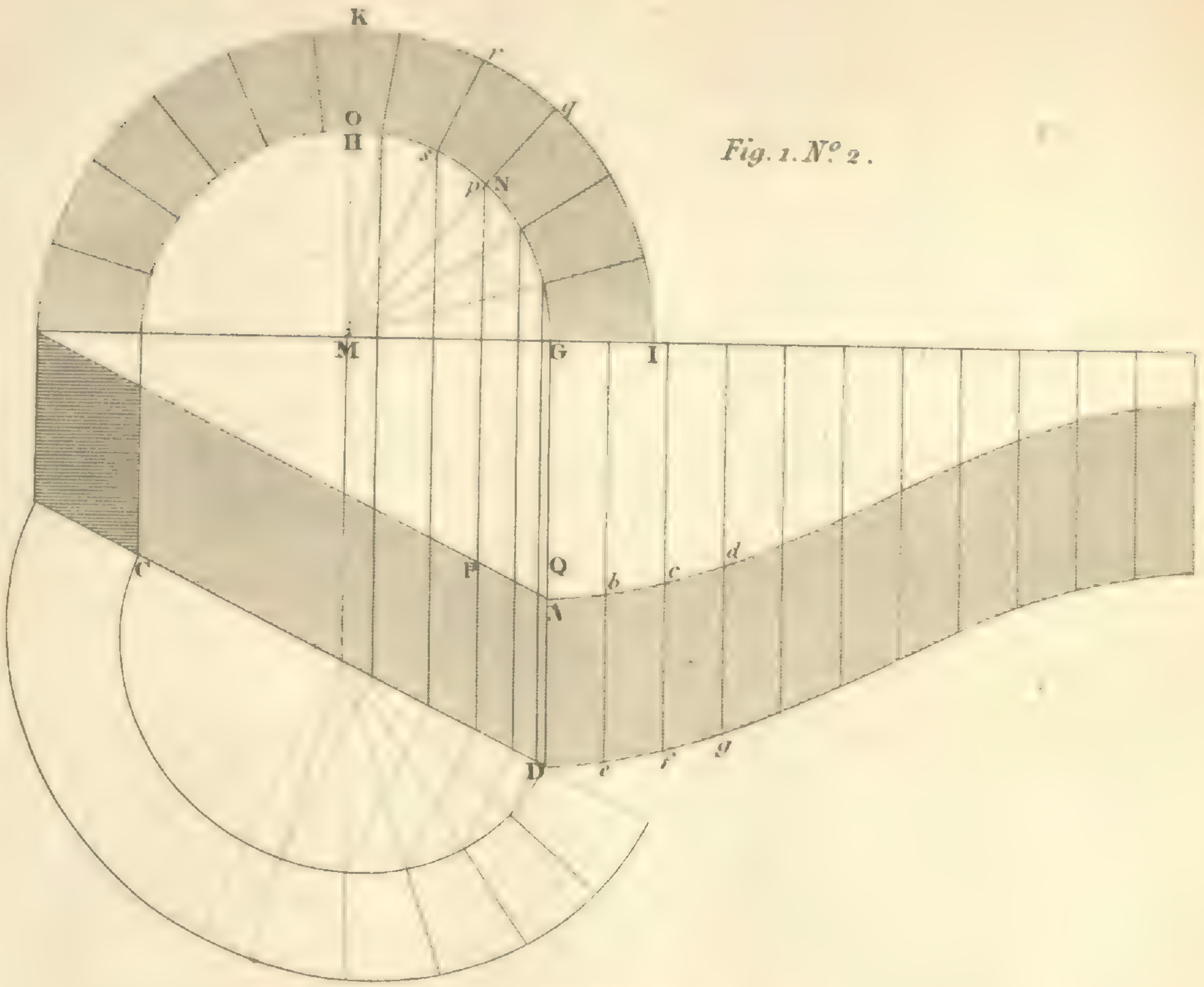
PLANO-CYLINDROIDIC ARCH

Fig. 1.



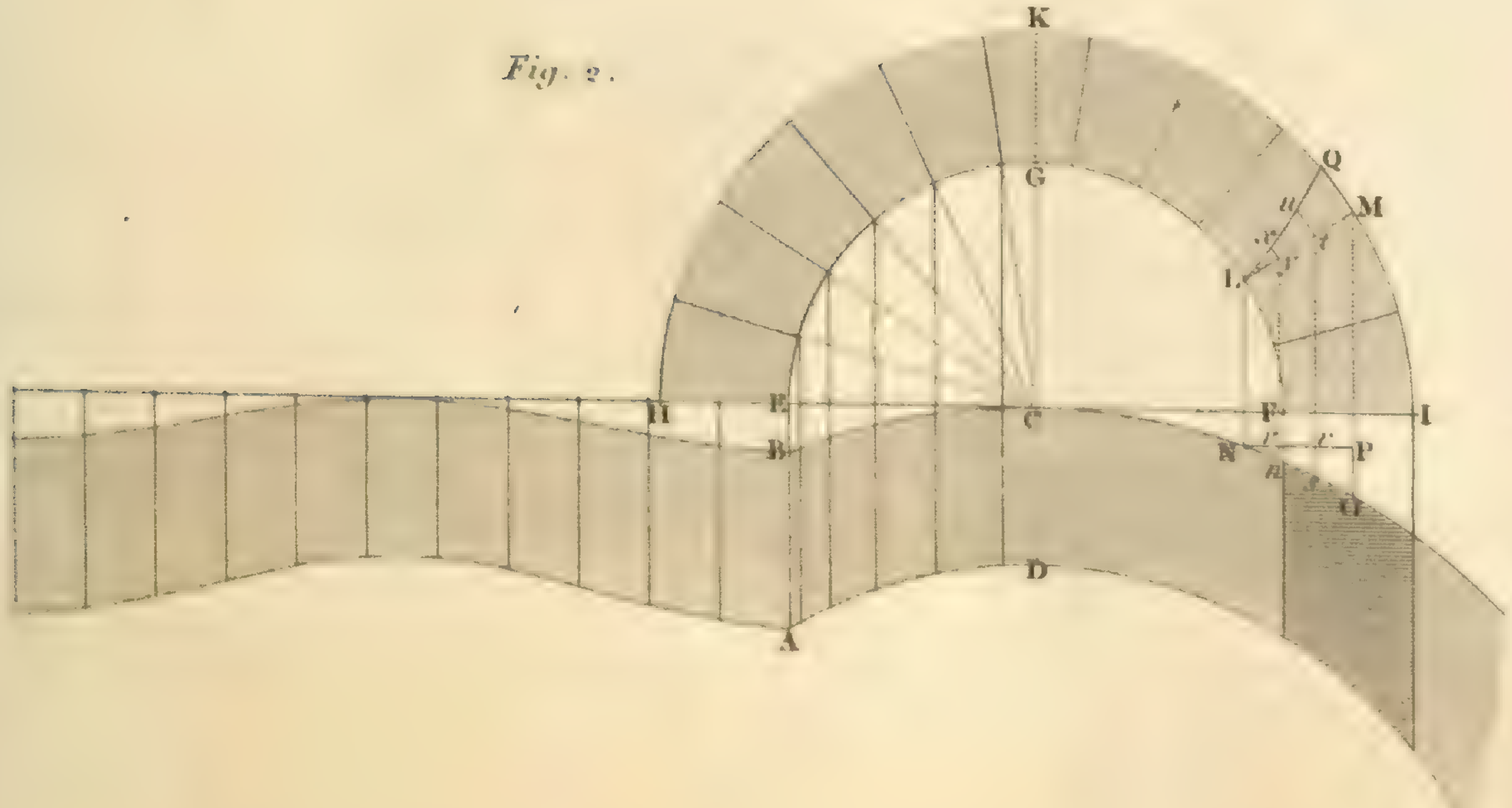
PLANO CYLINDRIC ARCH

Fig. 1. No. 2.



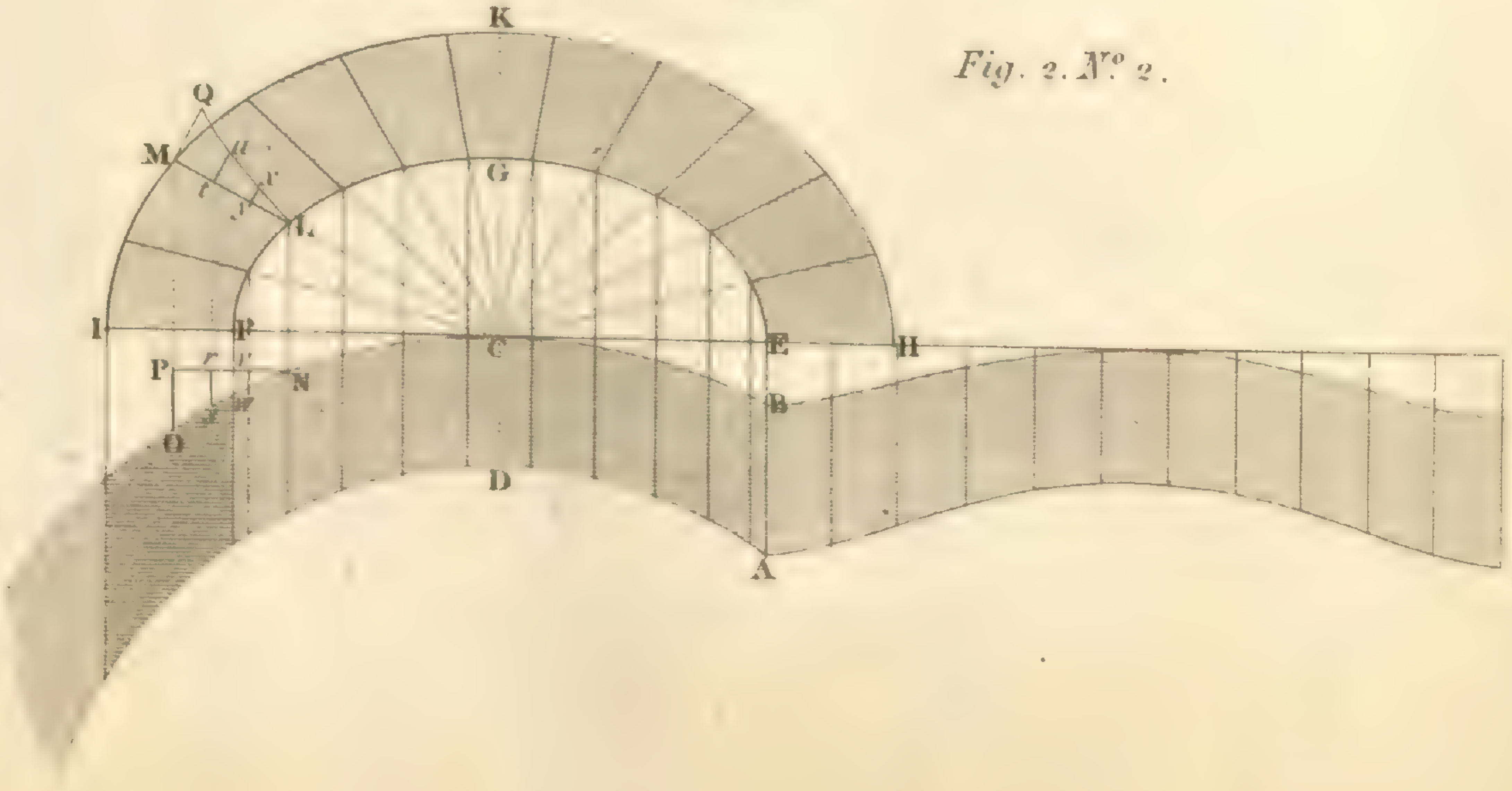
CYLINDRO-CYLINDRIC

Fig. 2.



CYLINDRO-CYLINDROIDIC

Fig. 2. No. 2.



P. Nicholson del.

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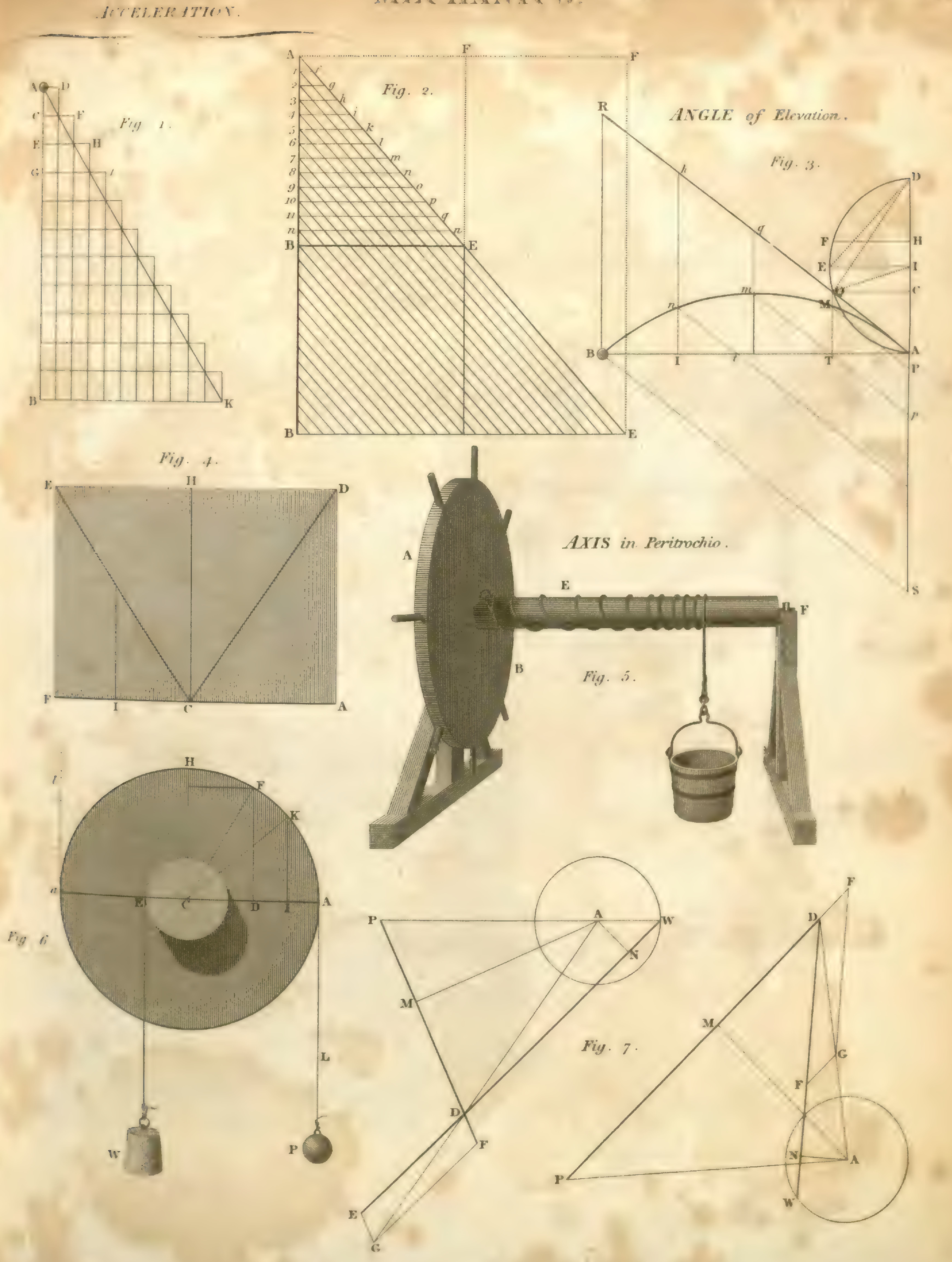
Engraved by W. Lowry.



Published as the Act directs April 1 1807; by Longman Hurst, Rees & Orme Paternoster Row.

Engraved by Wilson.

Fig. 8.

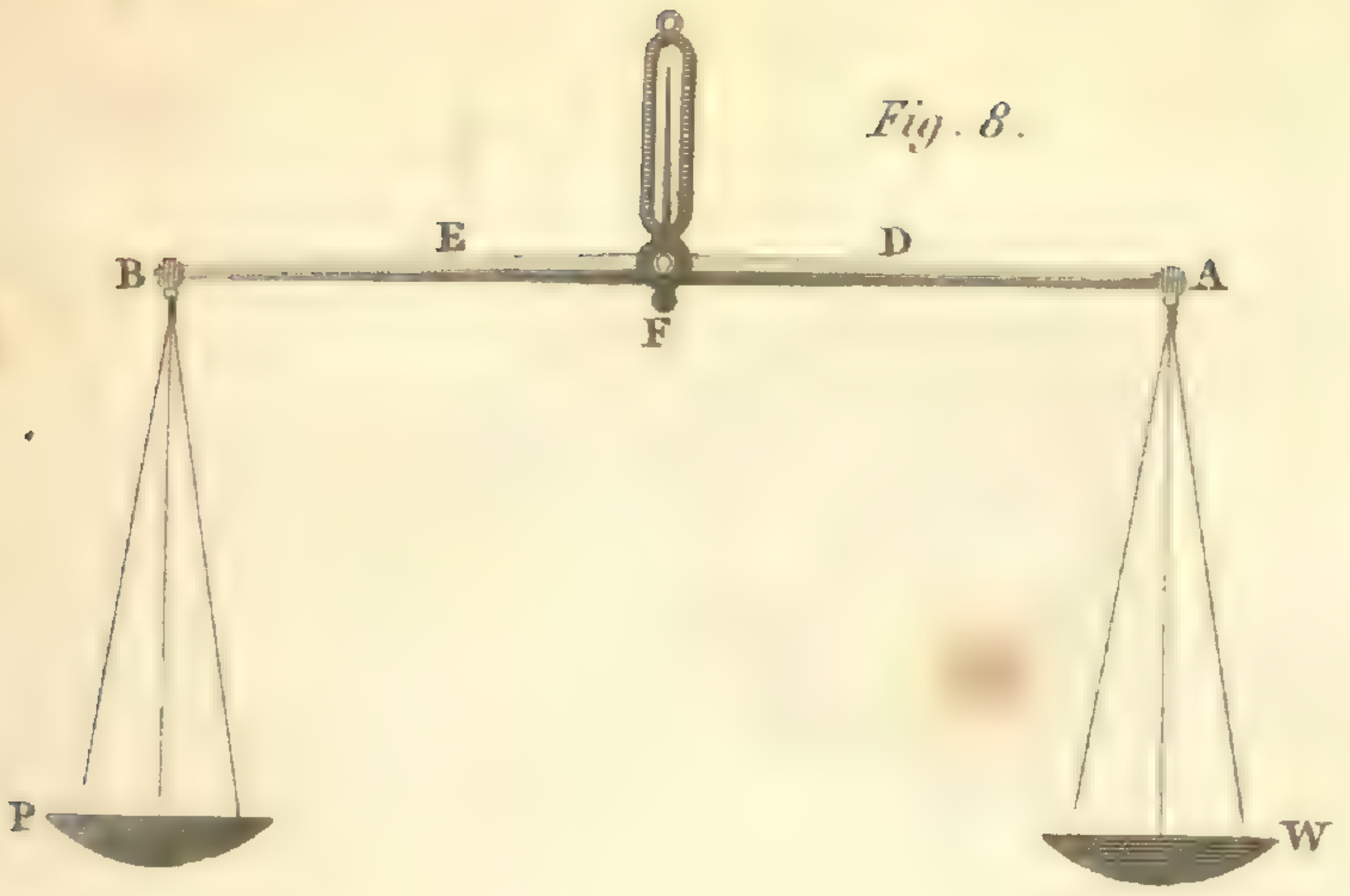


Fig. 9.

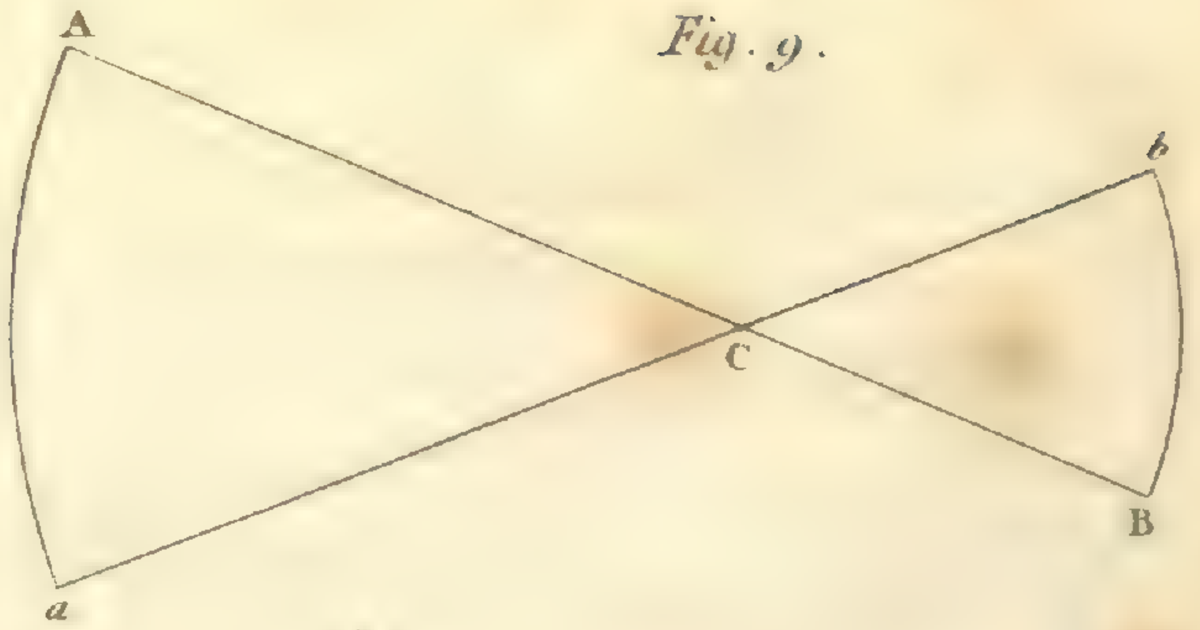


Fig. 10.

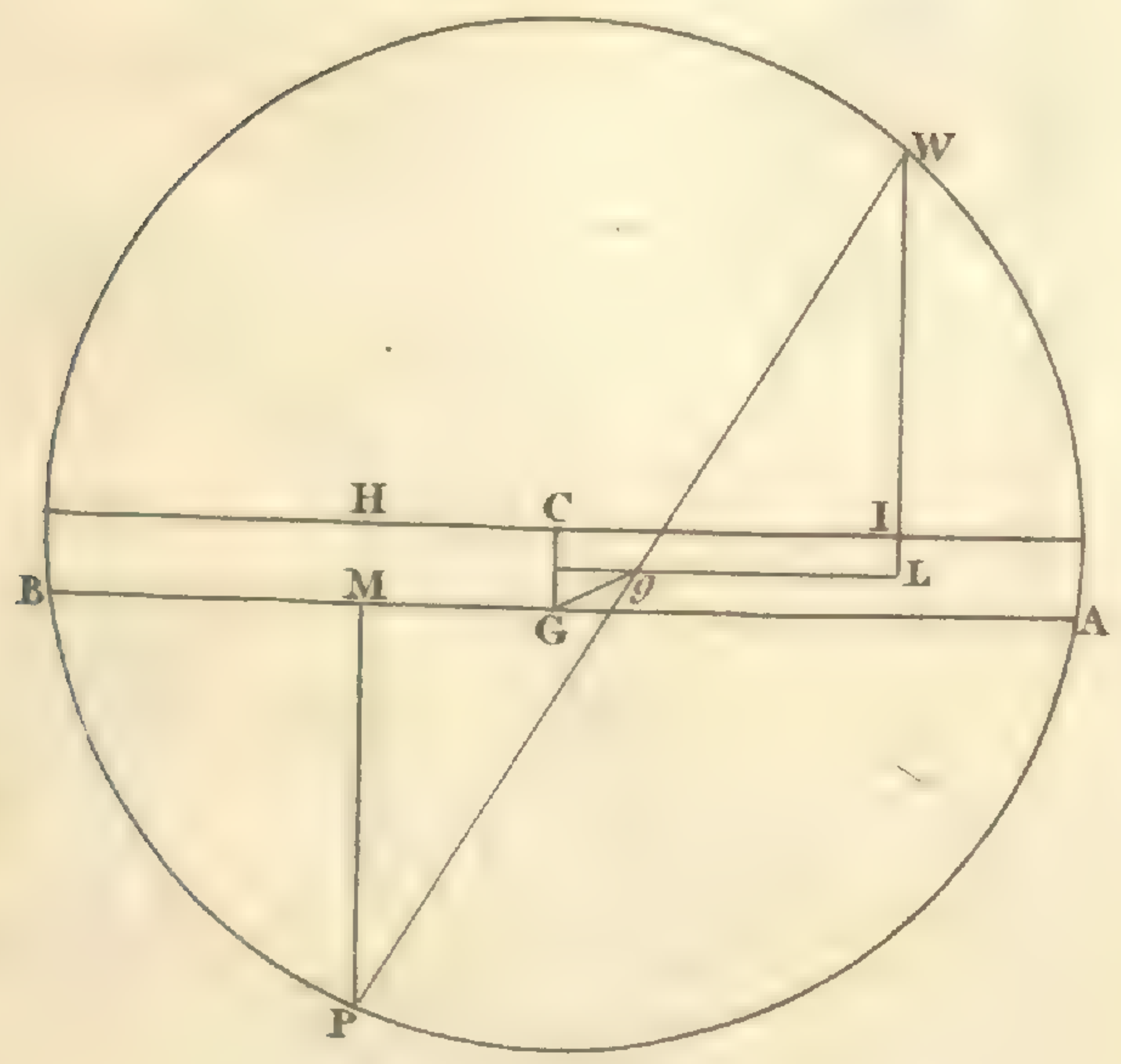


Fig. 11.

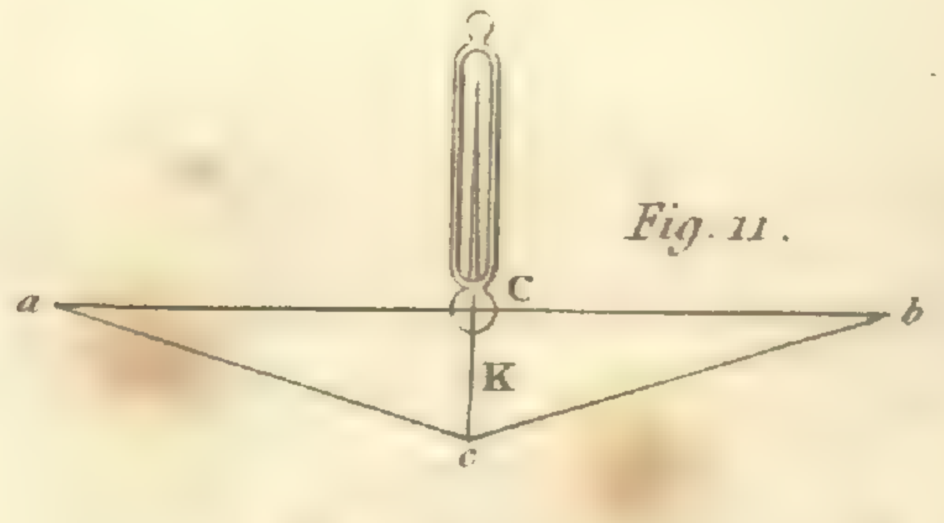


Fig. 12.

Fig. 13.

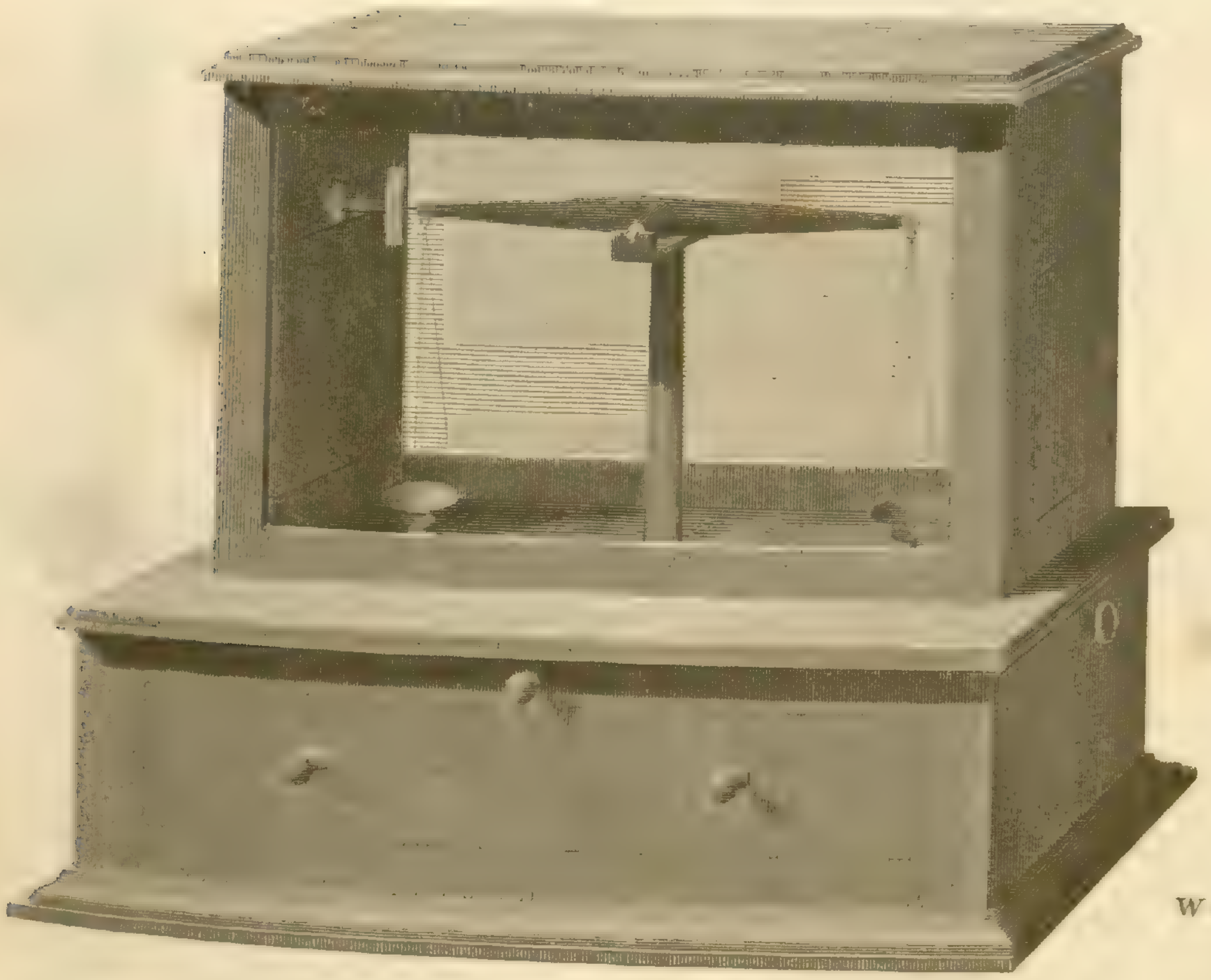
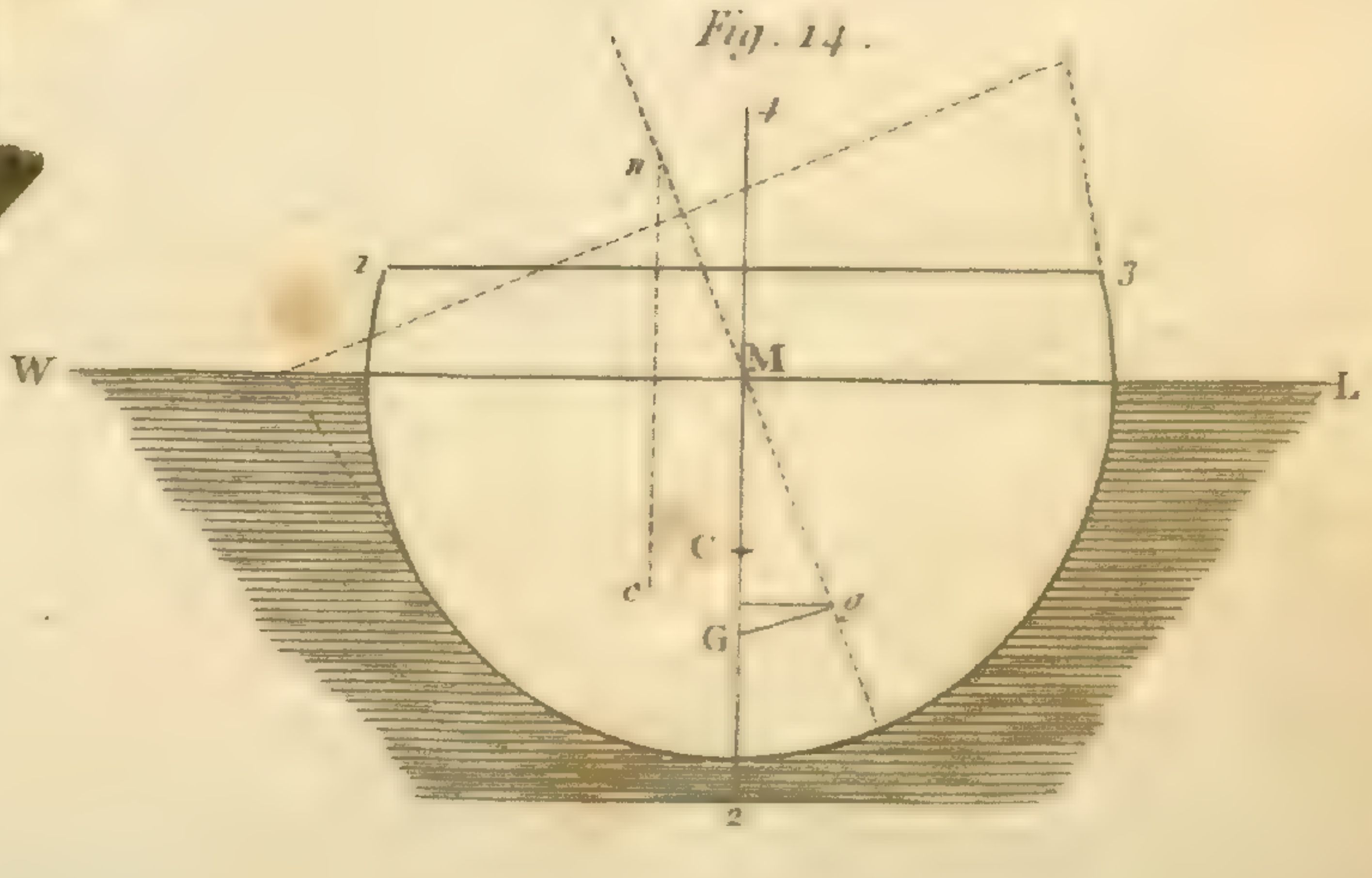


Fig. 14.



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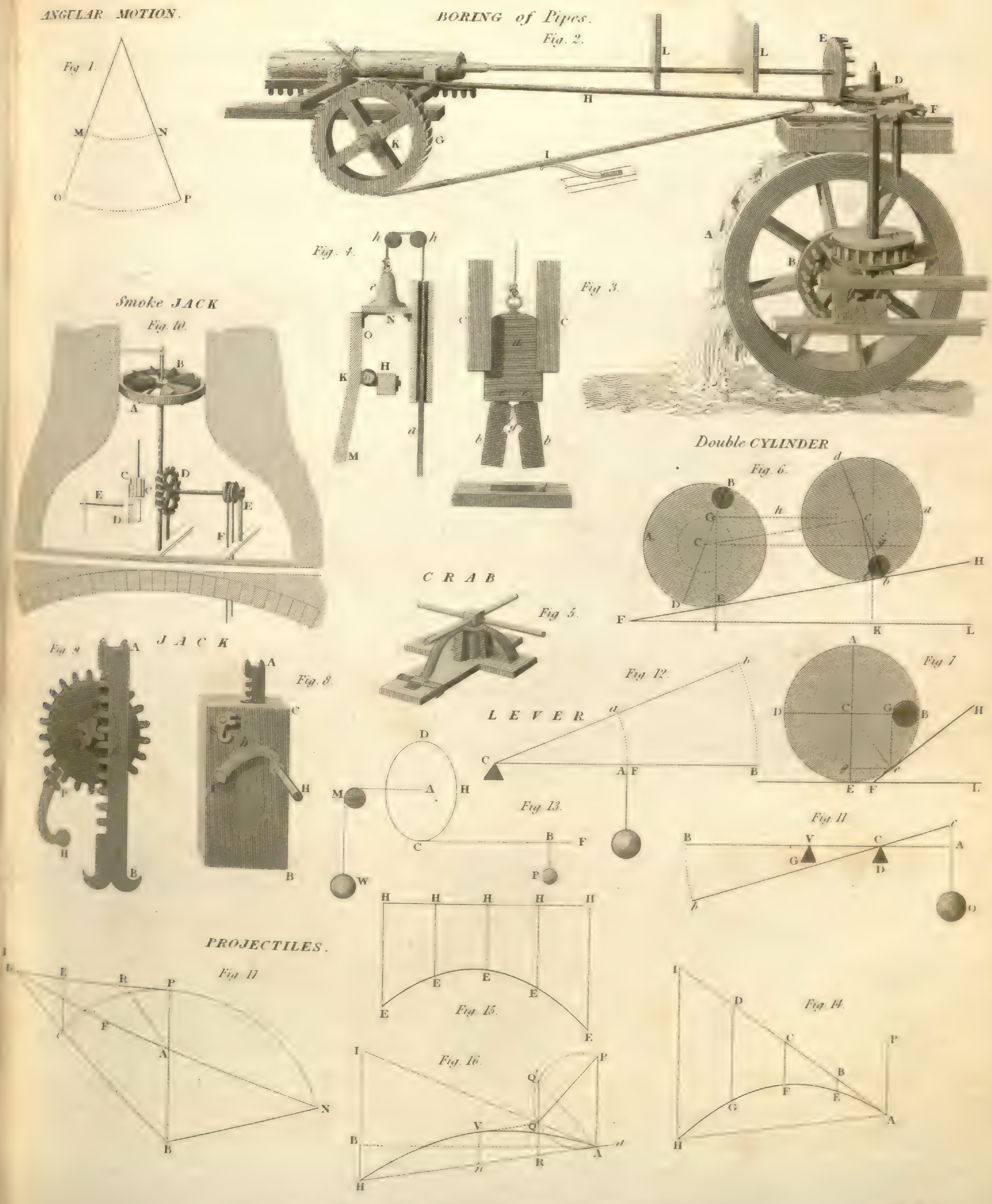
Engraved by Wilson Lowry



Published as the Act directs, 1820, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry sc.

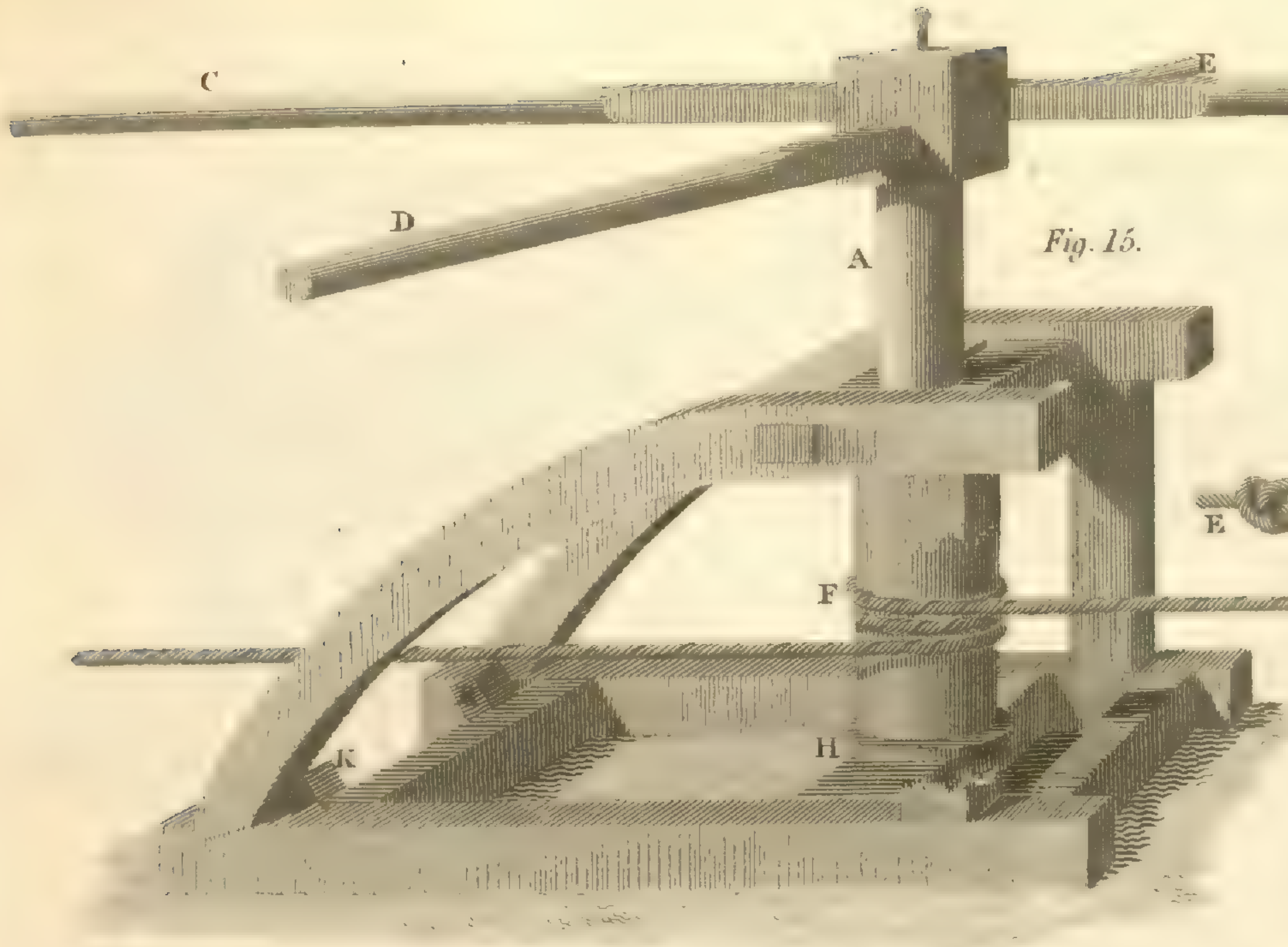


Fig. 15.

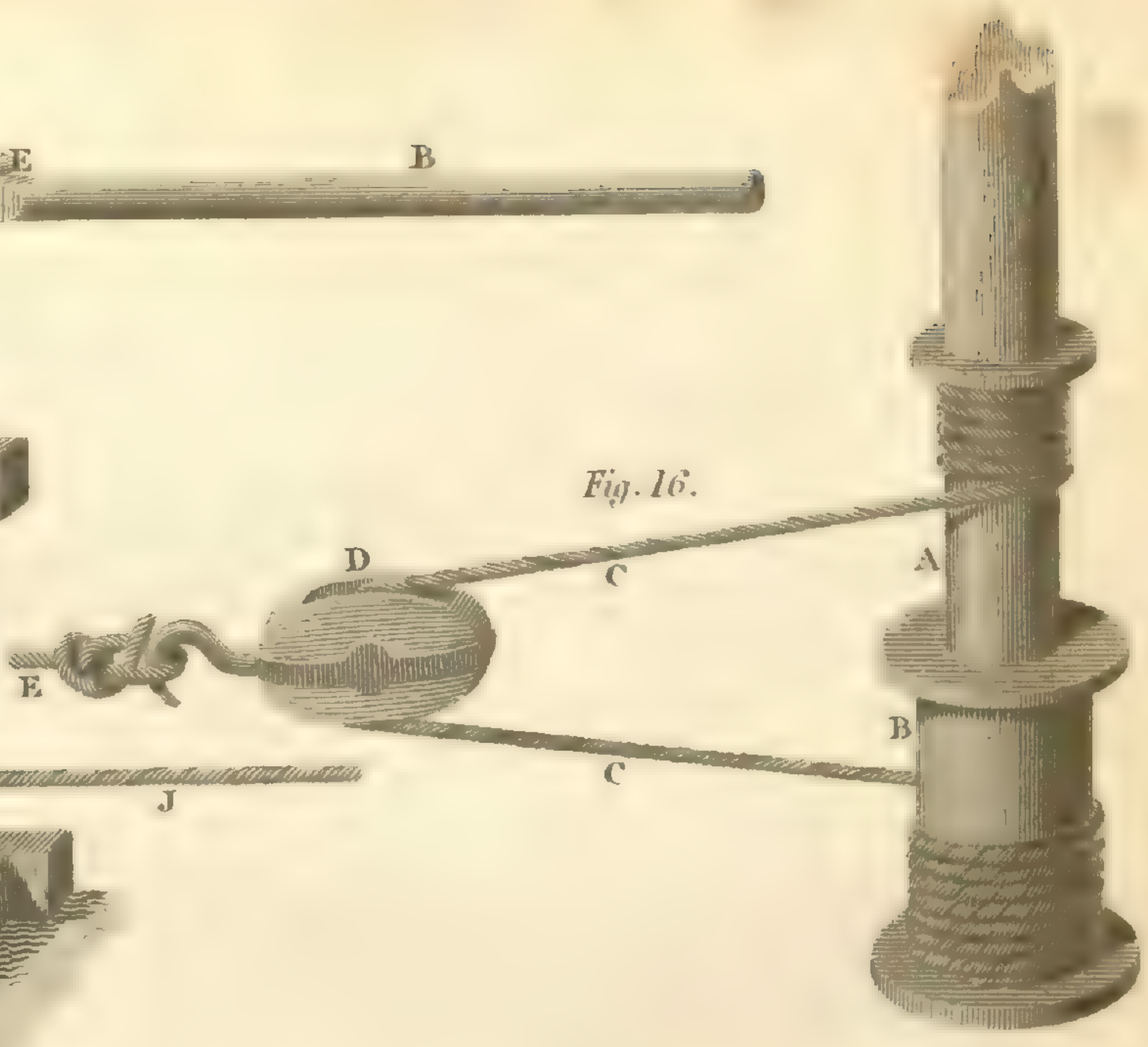


Fig. 16.

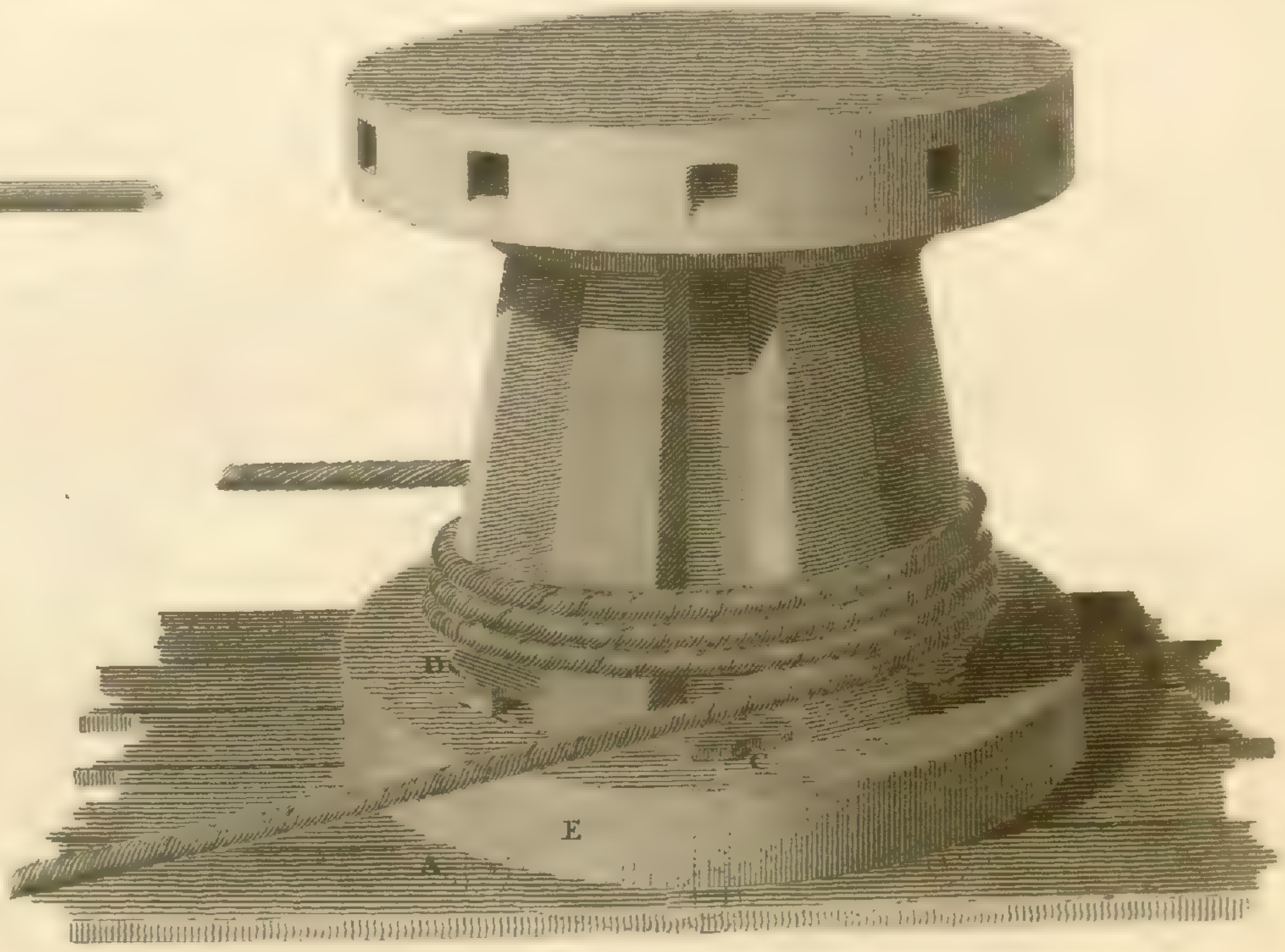
Fig. 20.


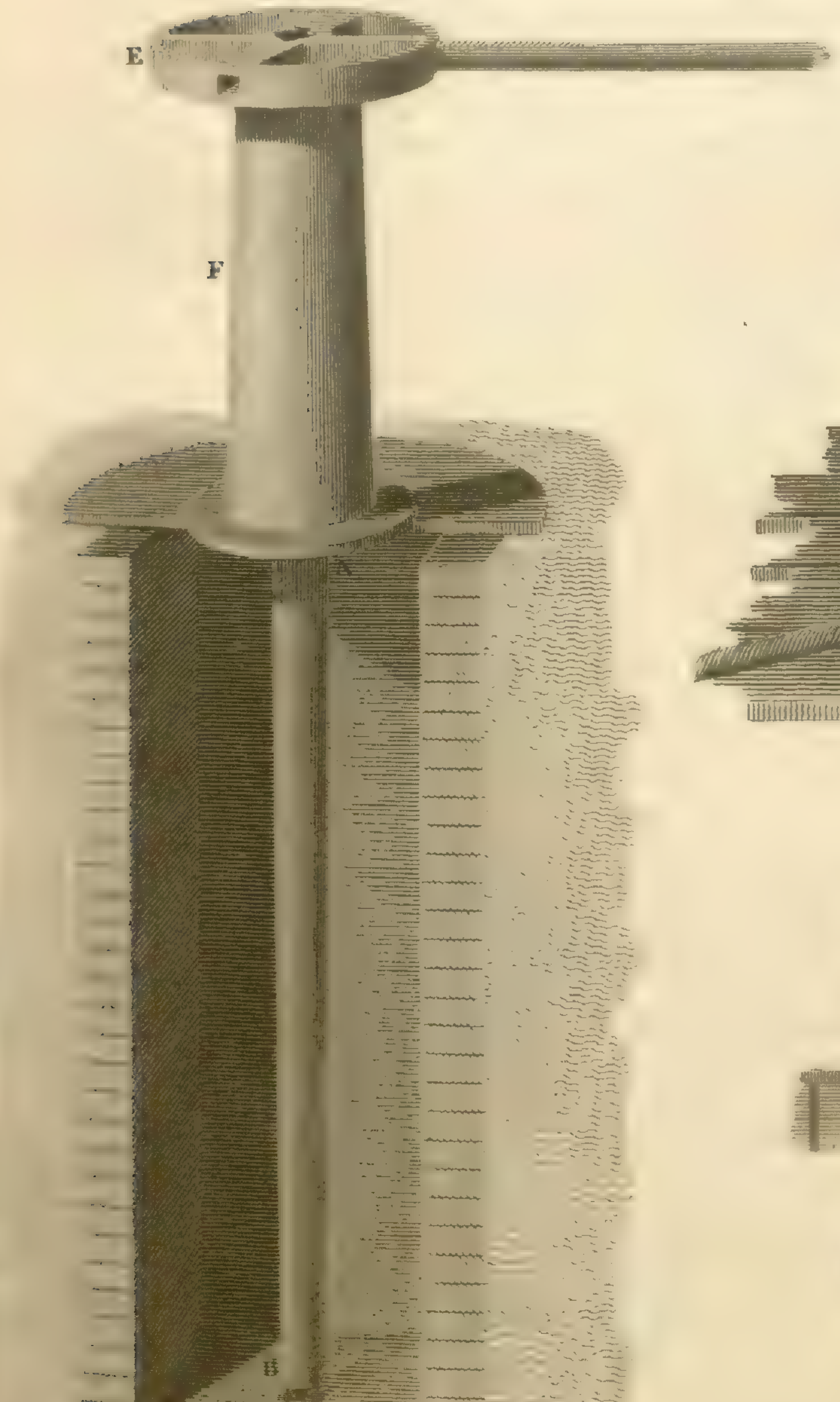
Fig. 17.


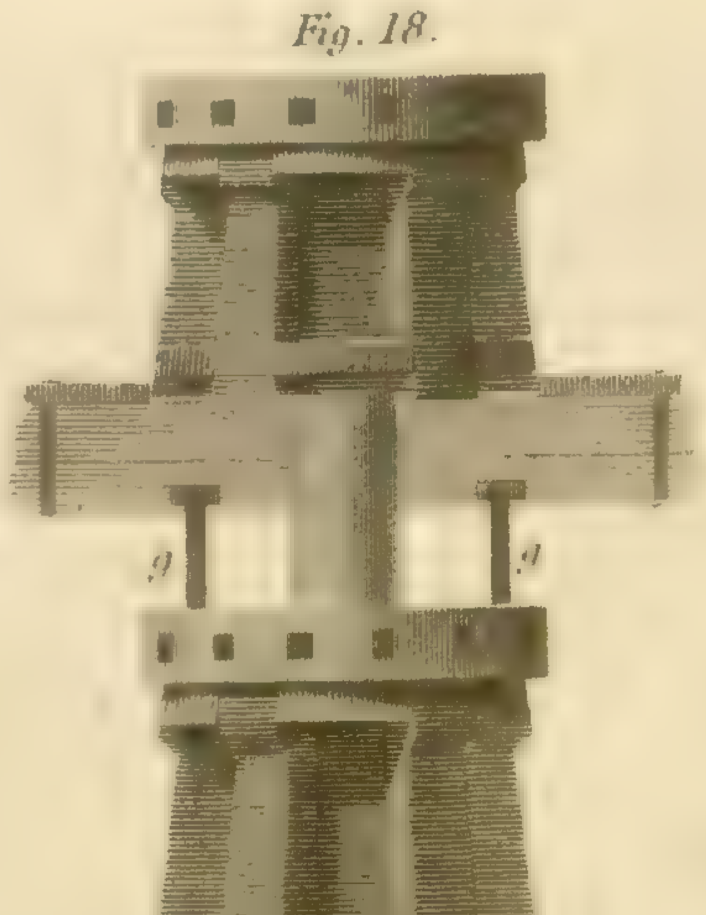
Fig. 18.


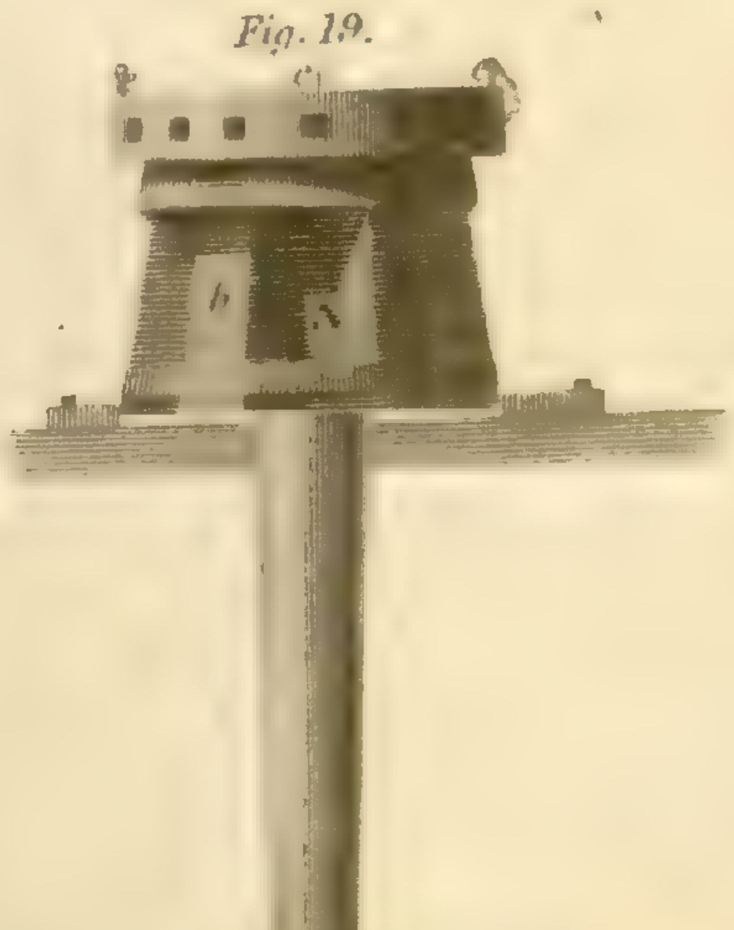
Fig. 19.


Fig. 21.

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MECHANICS.

CENTER OF FRICTION, CENTER OF GRAVITY &c.

Fig. 21.

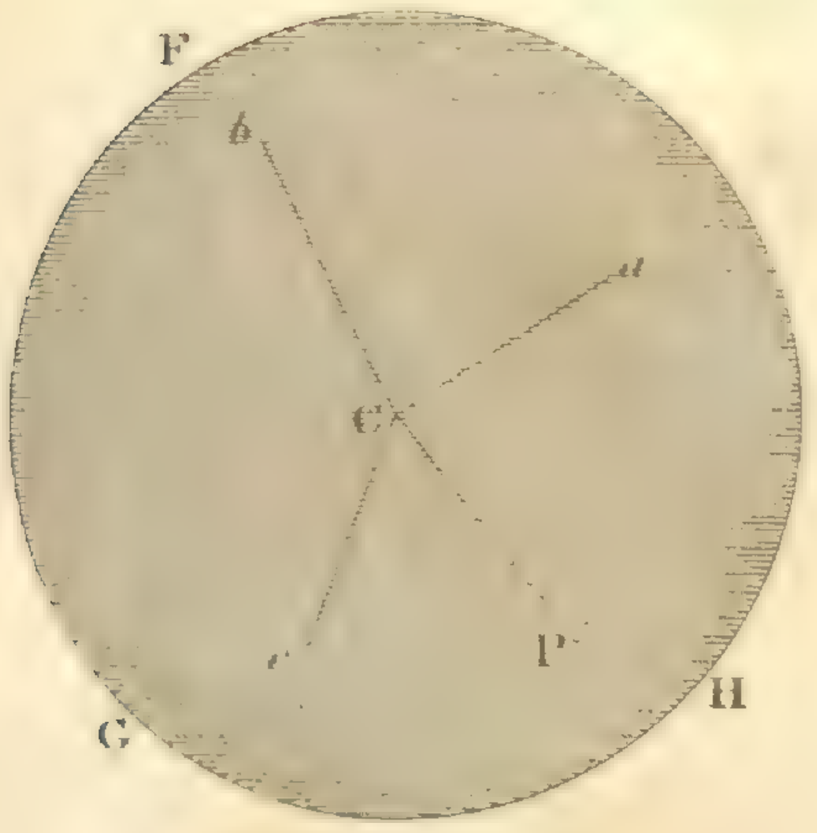


Fig. 22.

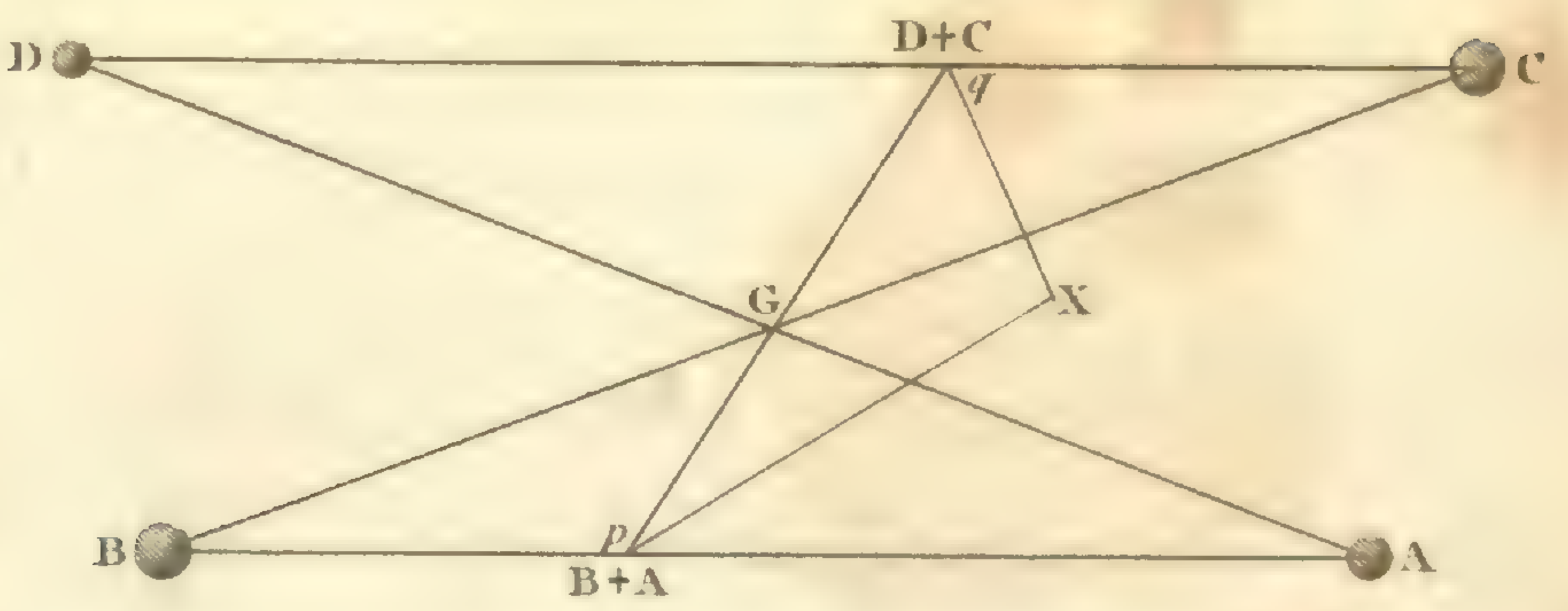


Fig. 23.

Fig. 24.

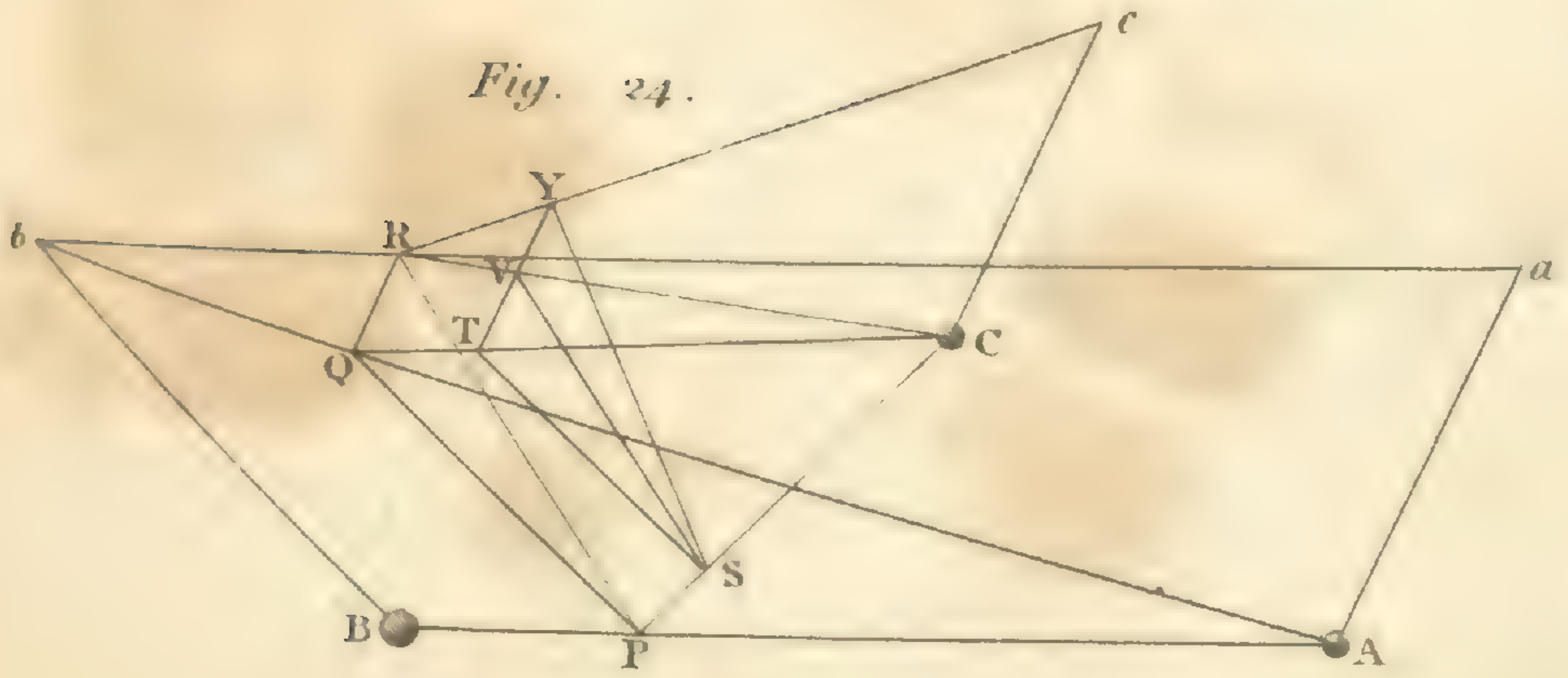


Fig. 25.

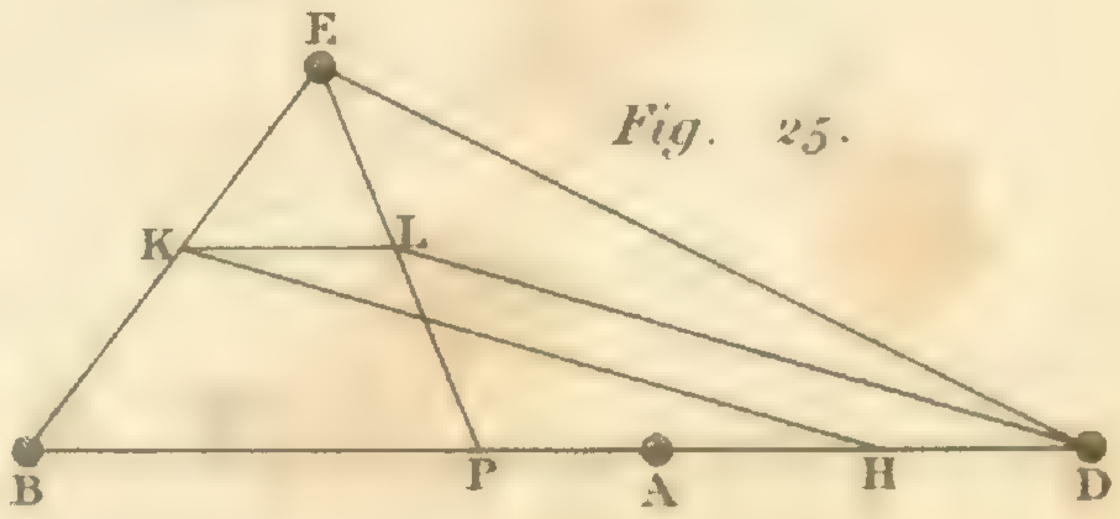


Fig. 26.

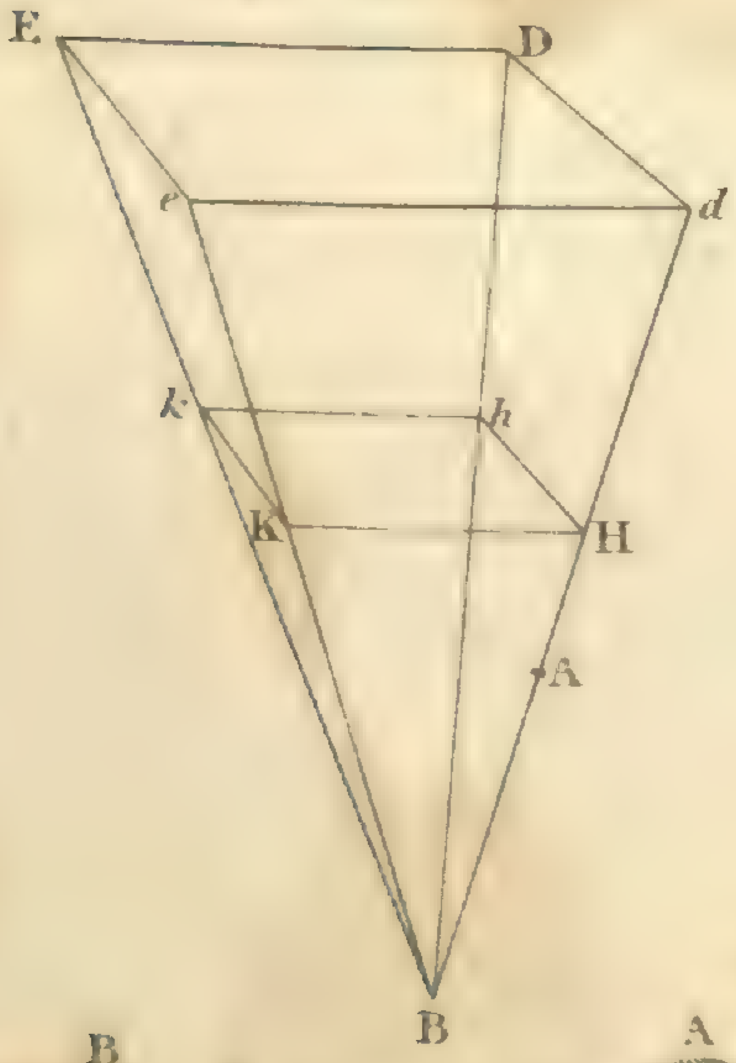


Fig. 27.

Fig. 28.

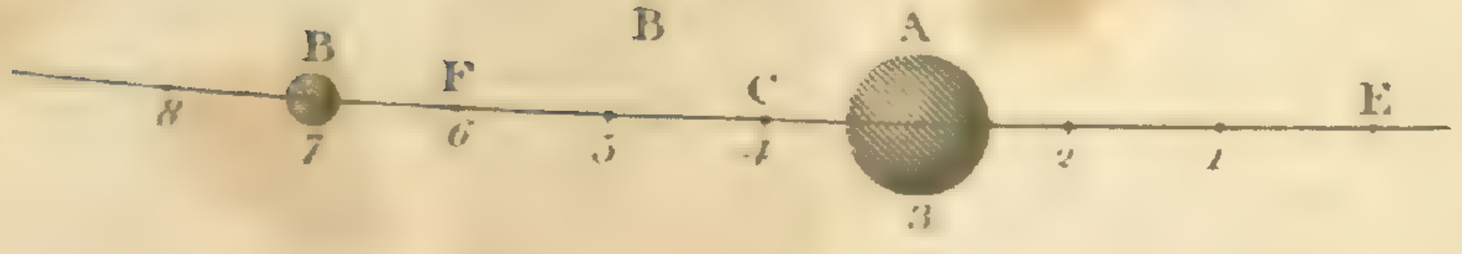
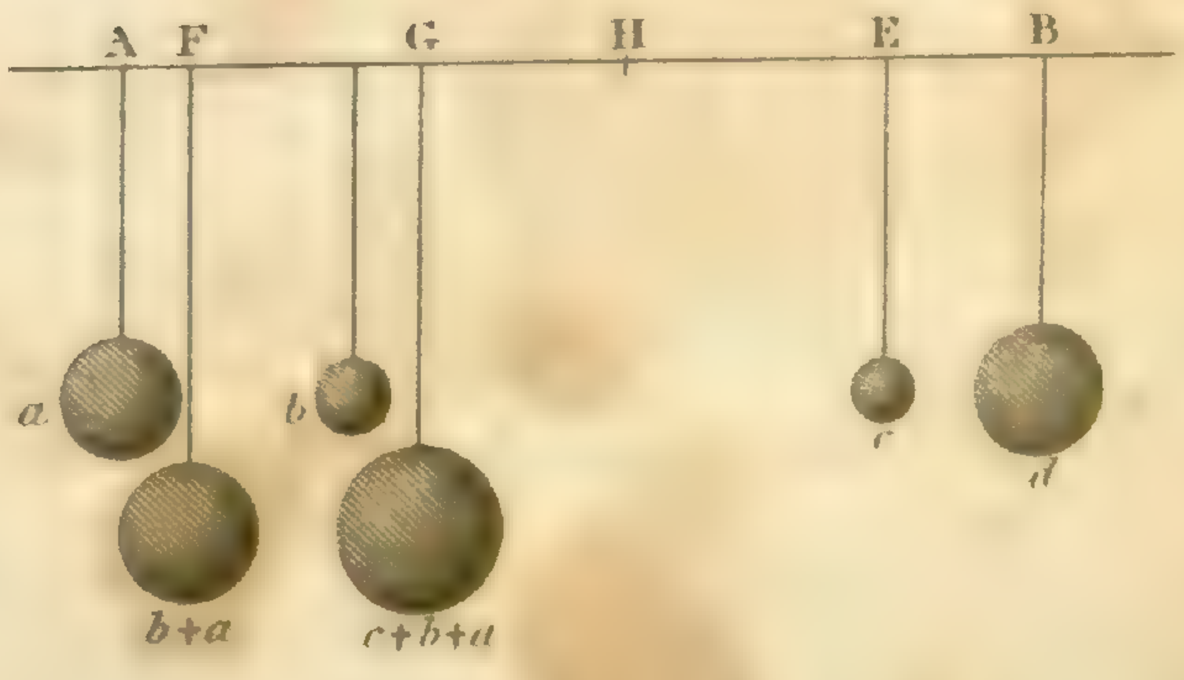


Fig. 29.



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MECHANICS.

CENTER OF GRAVITY.

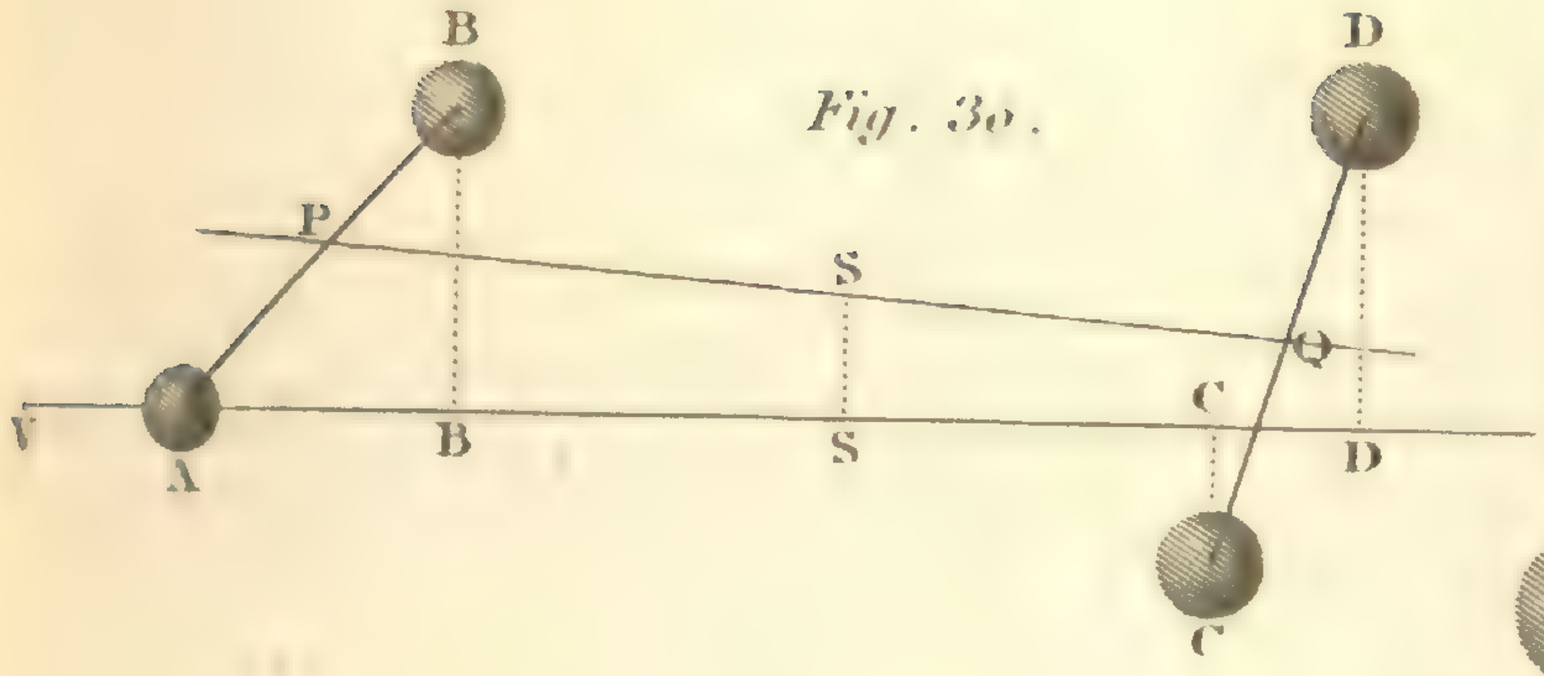

Fig. 30.

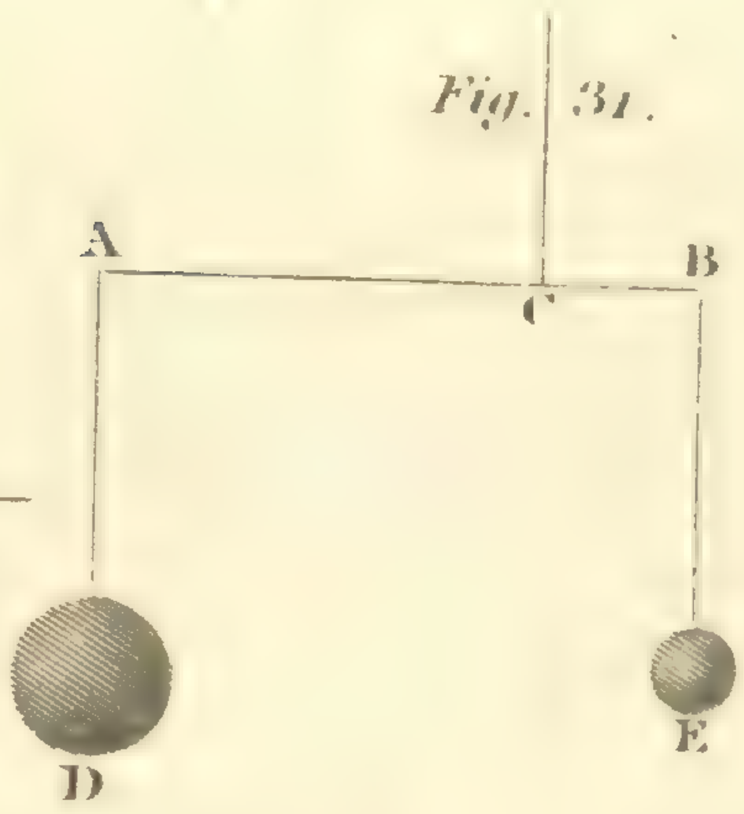

Fig. 31.

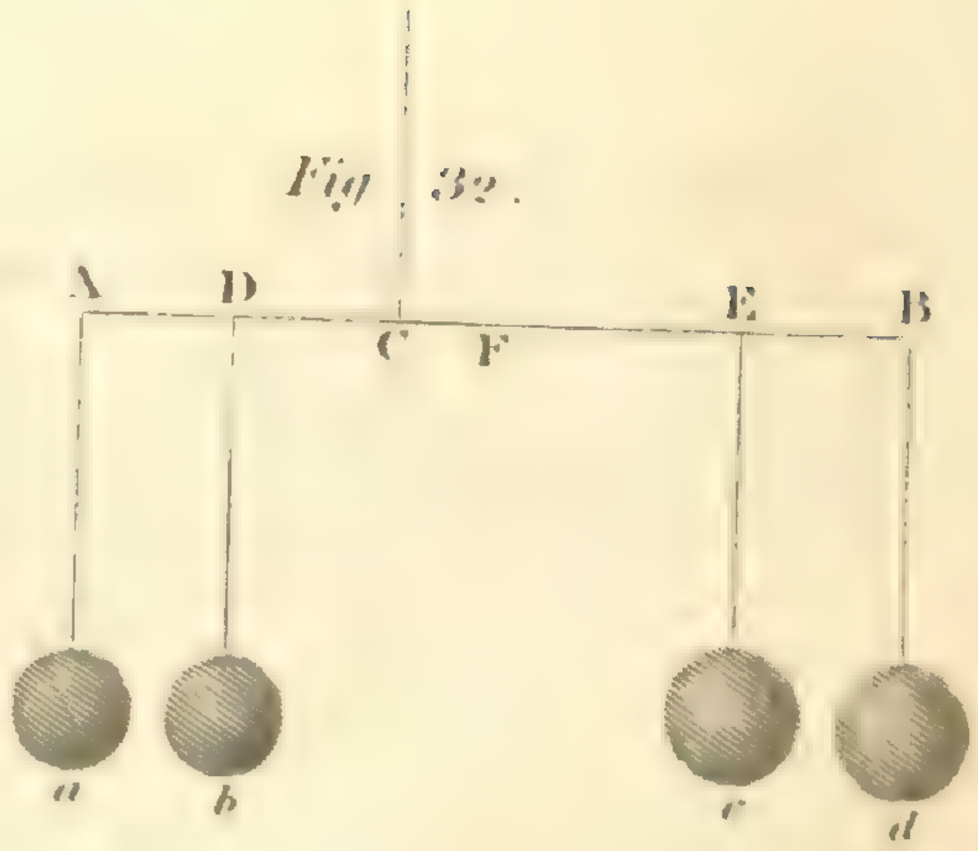

Fig. 32.

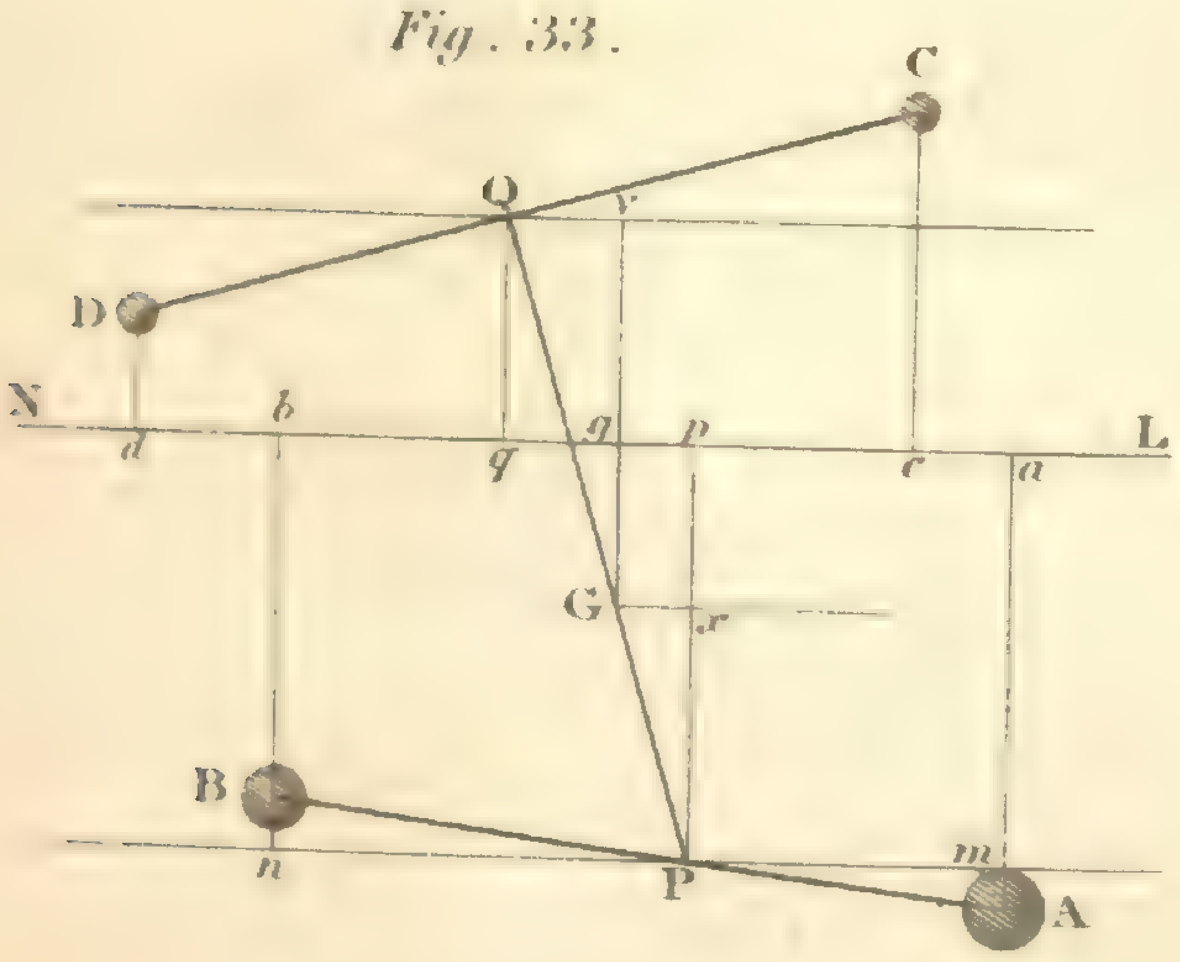

Fig. 33.

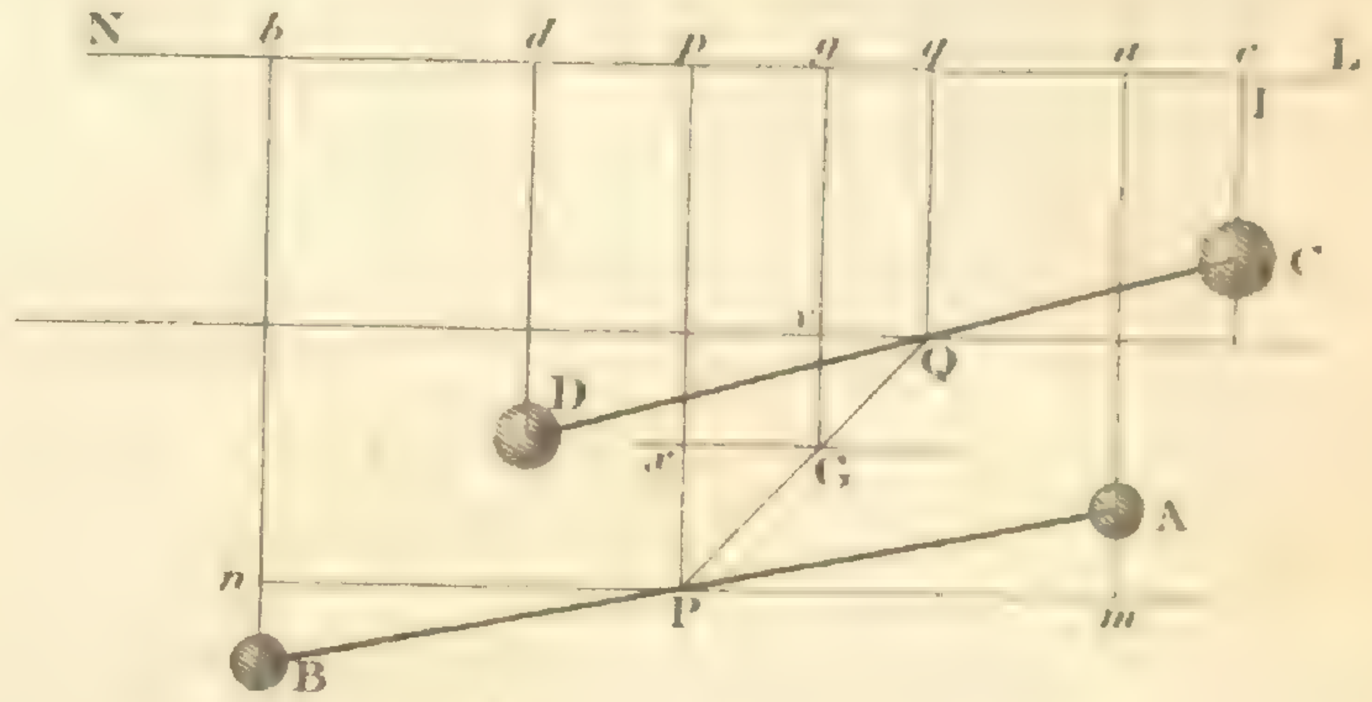

Fig. 34.

Fig. 35.

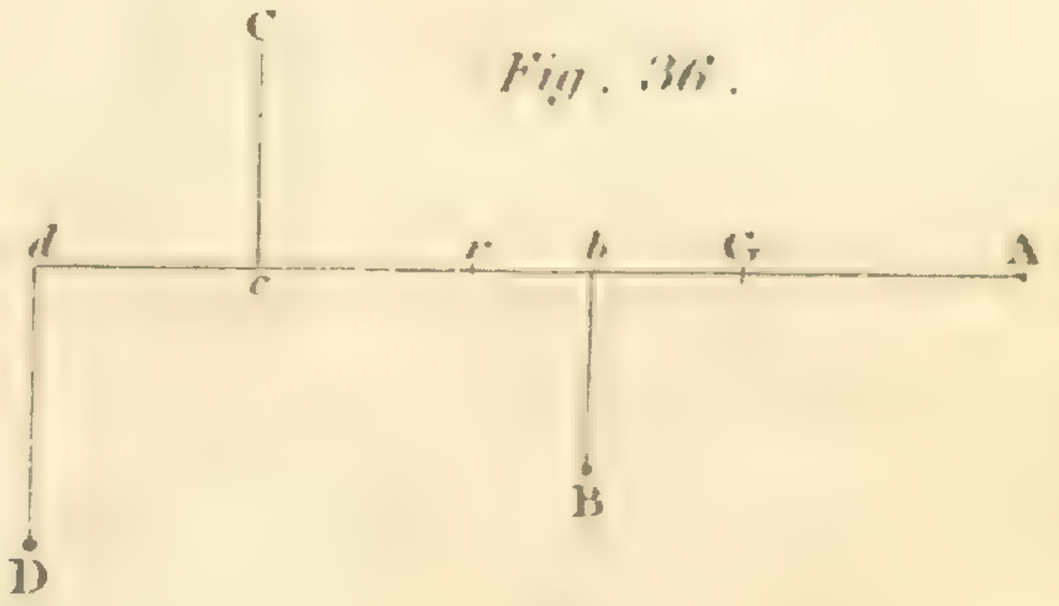

Fig. 36.

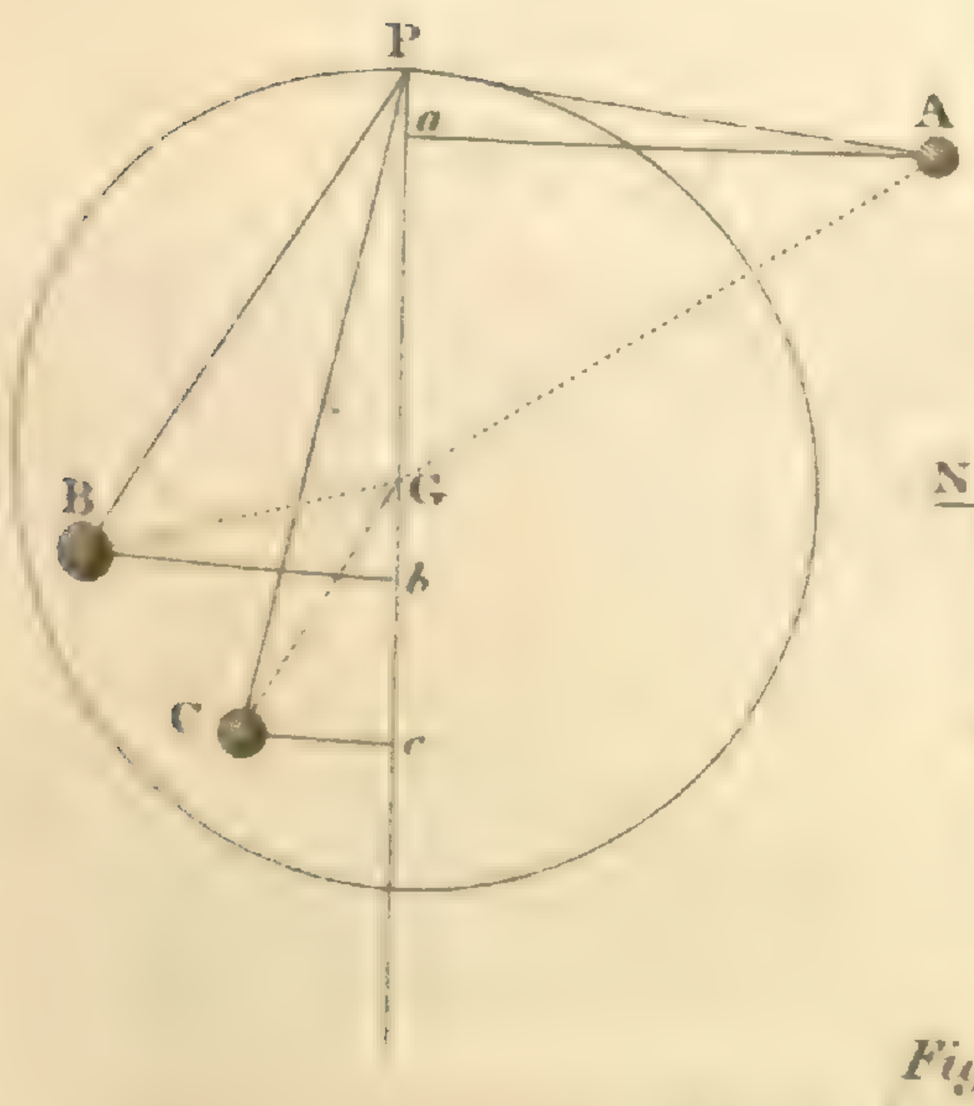

Fig. 37.

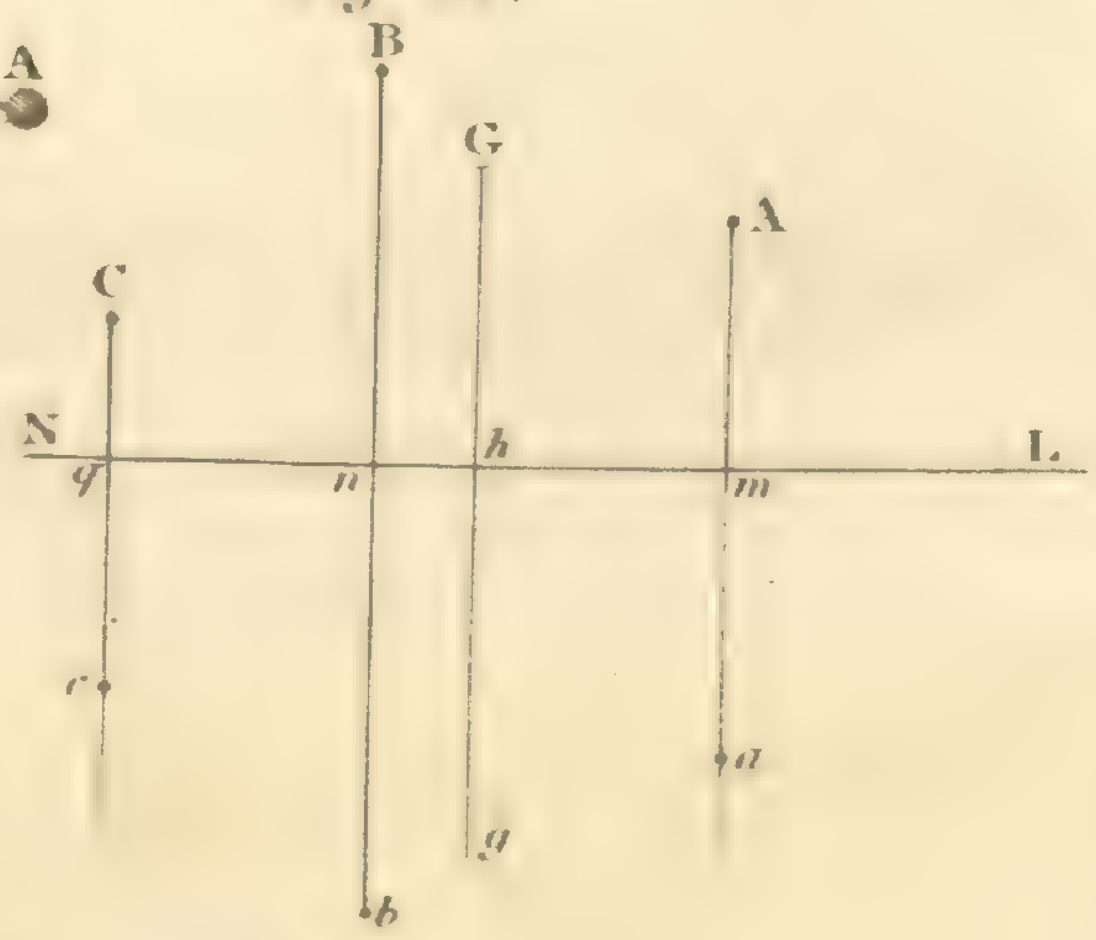

Fig. 38.

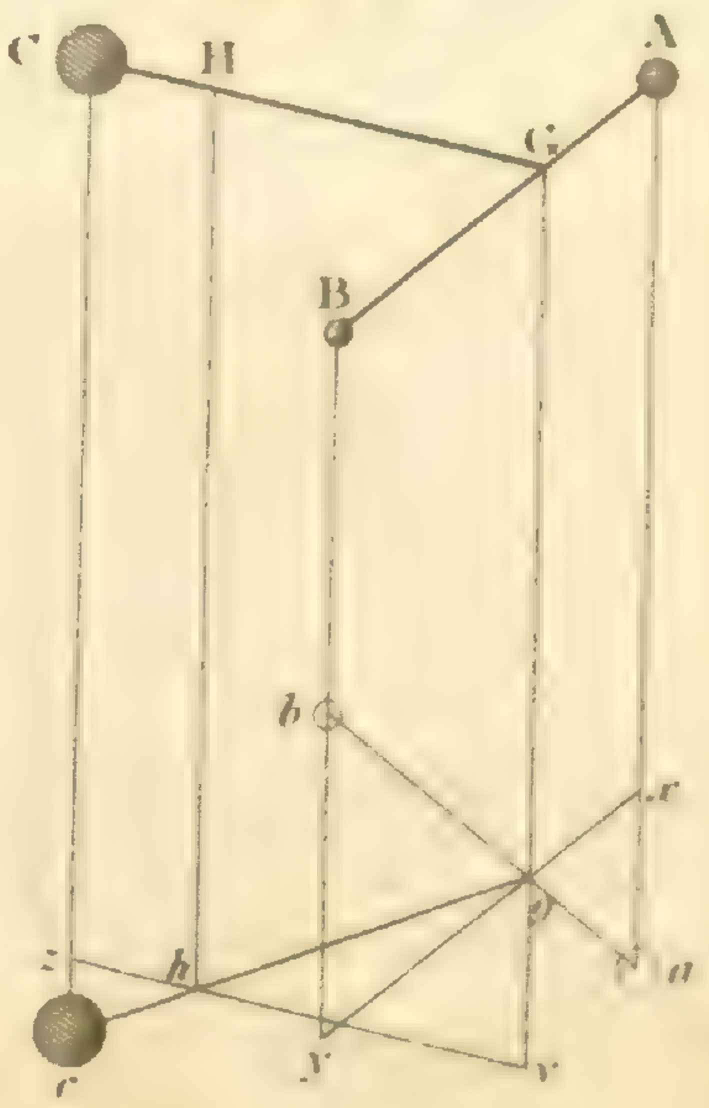

Fig. 39.

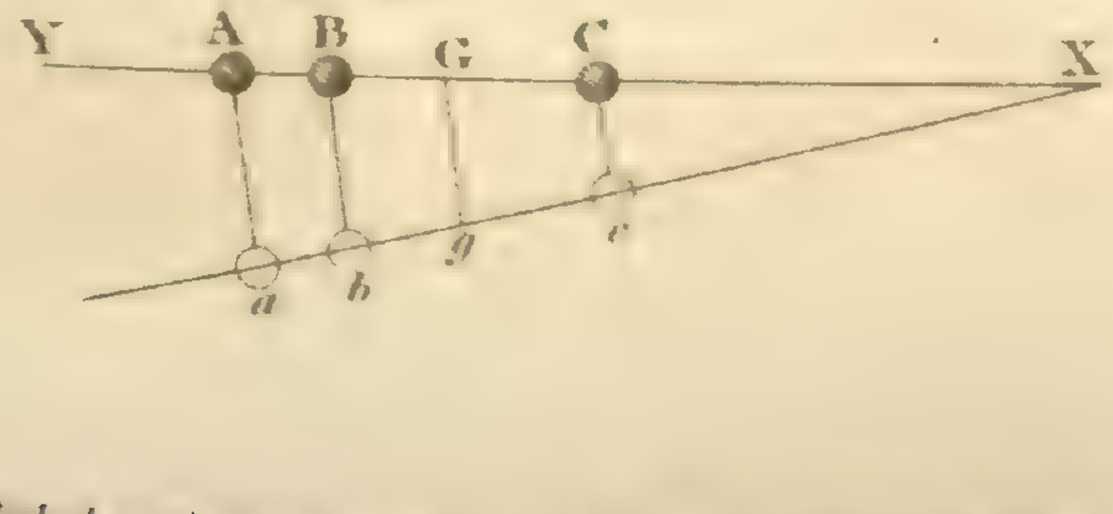

Fig. 40.

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CENTER OF GRAVITY.

Fig 41.

Fig 42.

Fig 43.

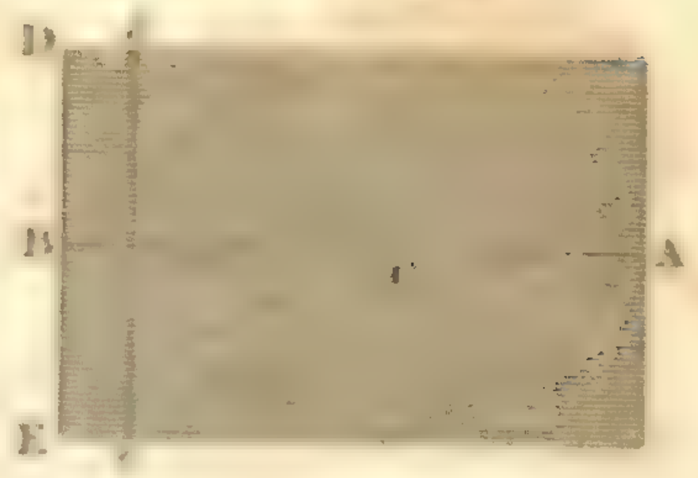


Fig 44.

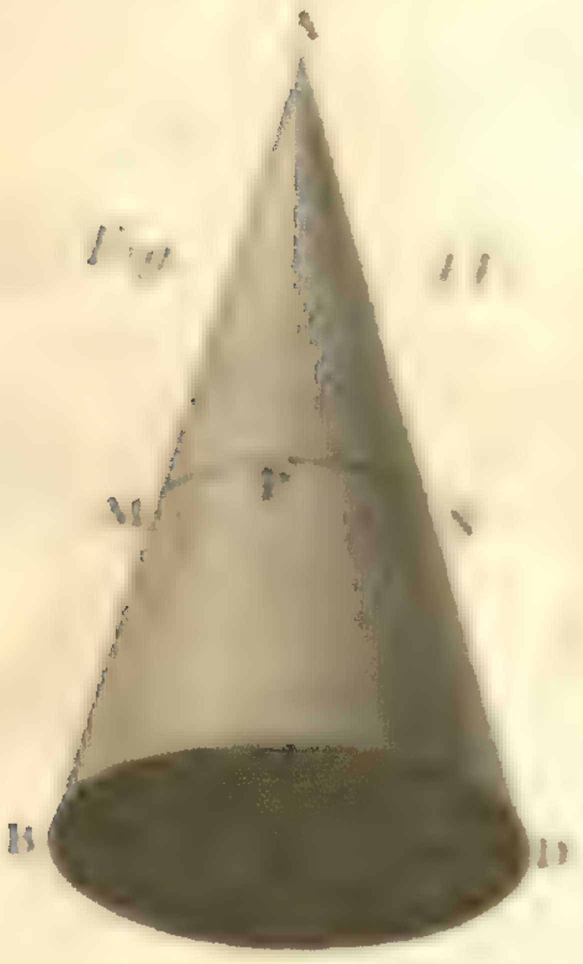


Fig 45.

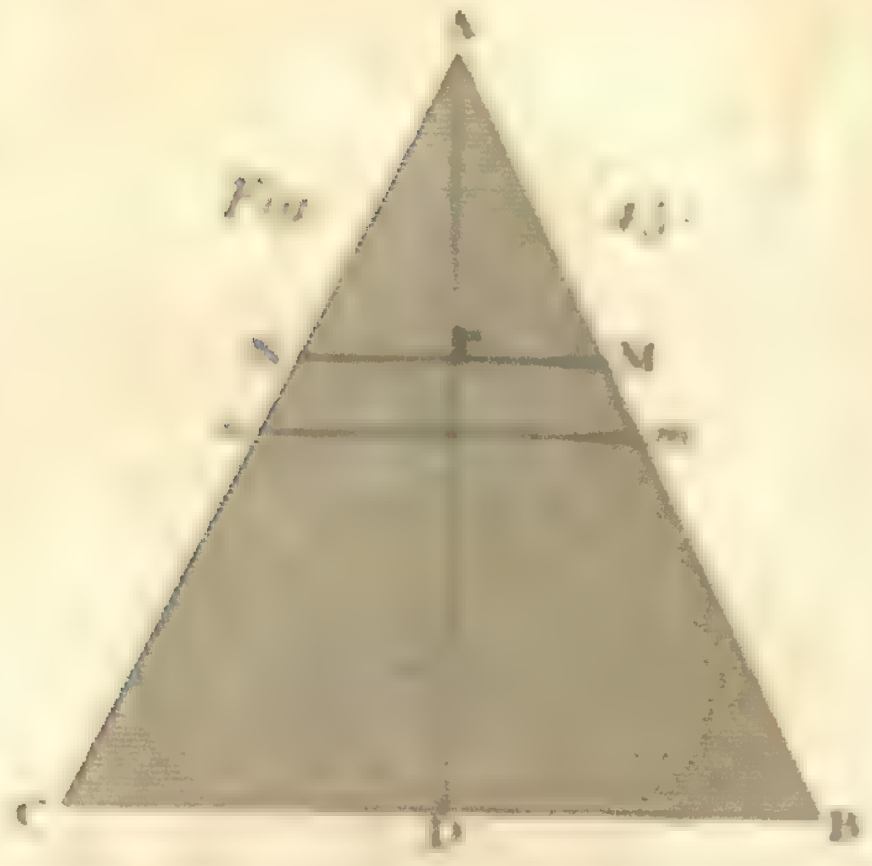


Fig 46.

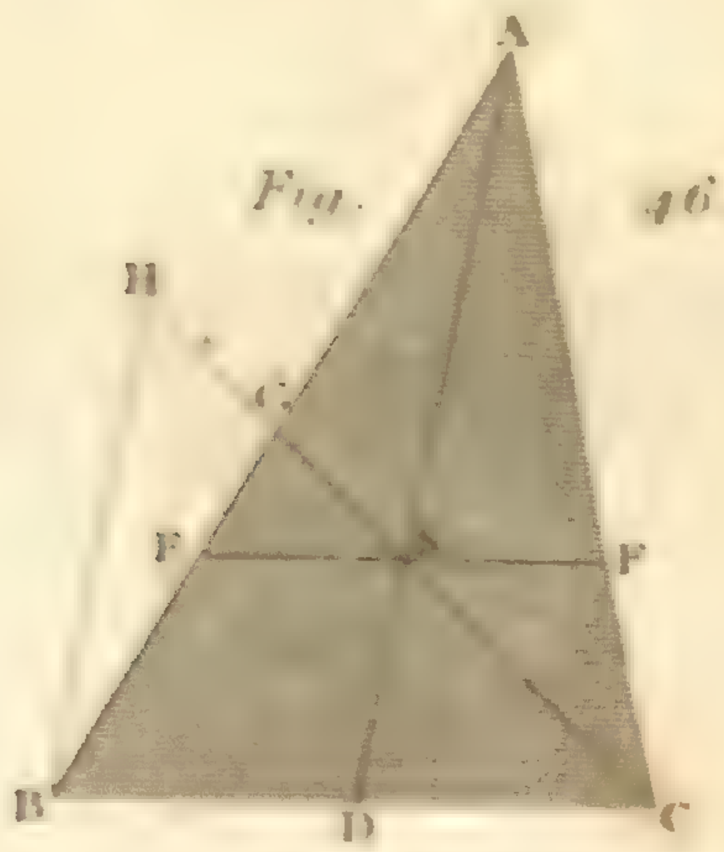


Fig 47.

Fig 48.

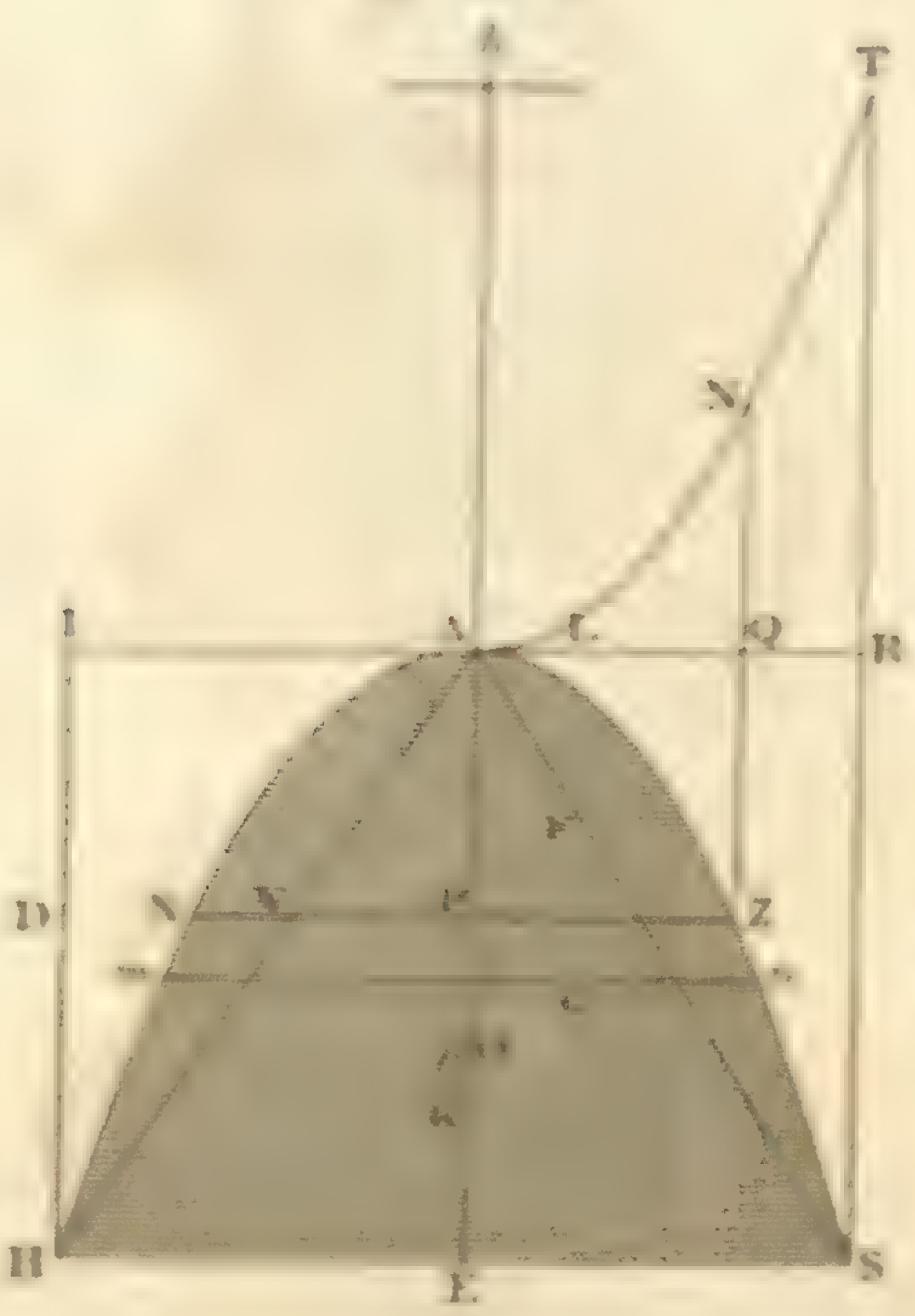


Fig 49.

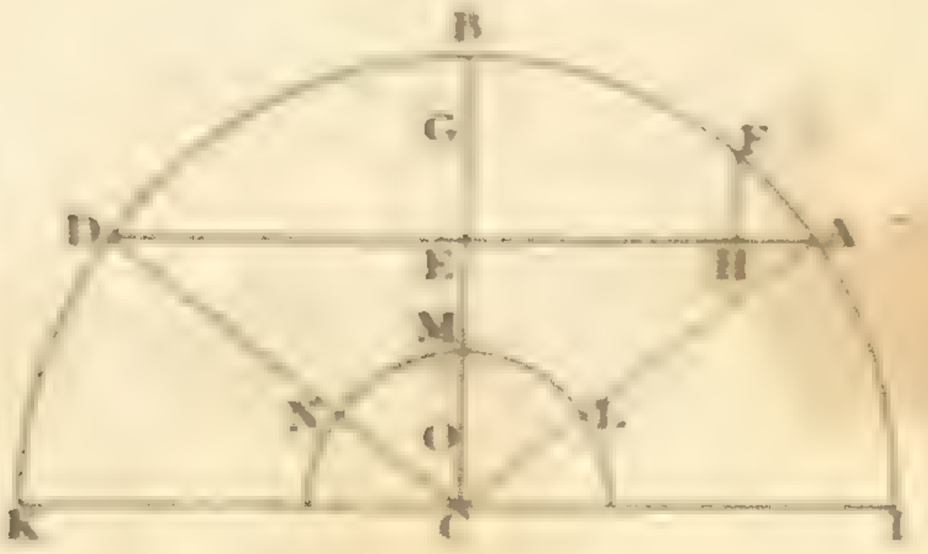


Fig 50.

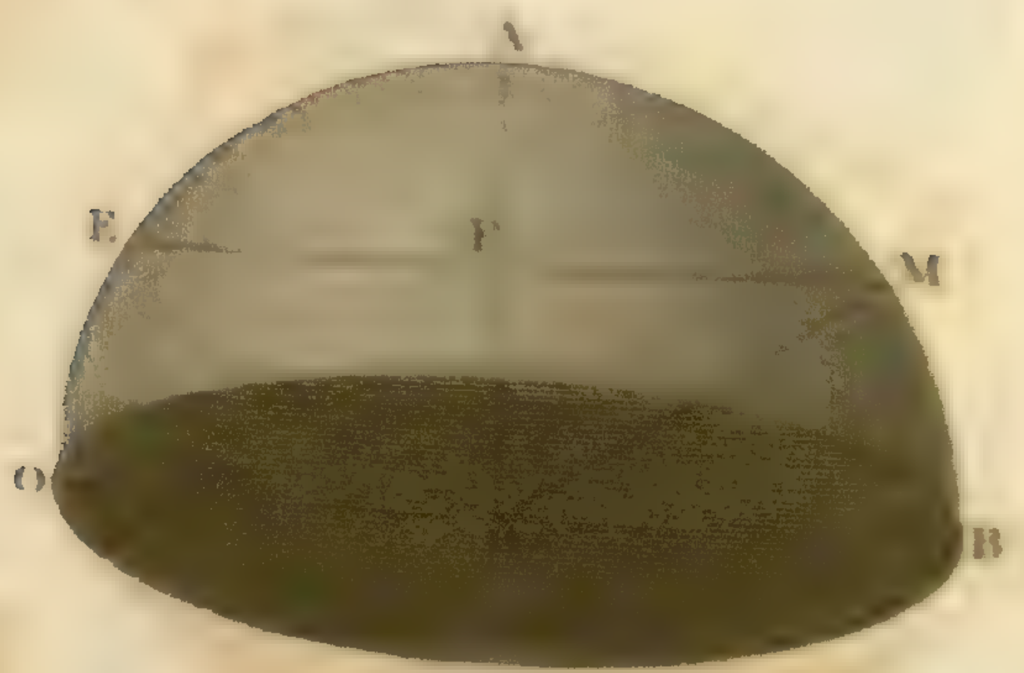
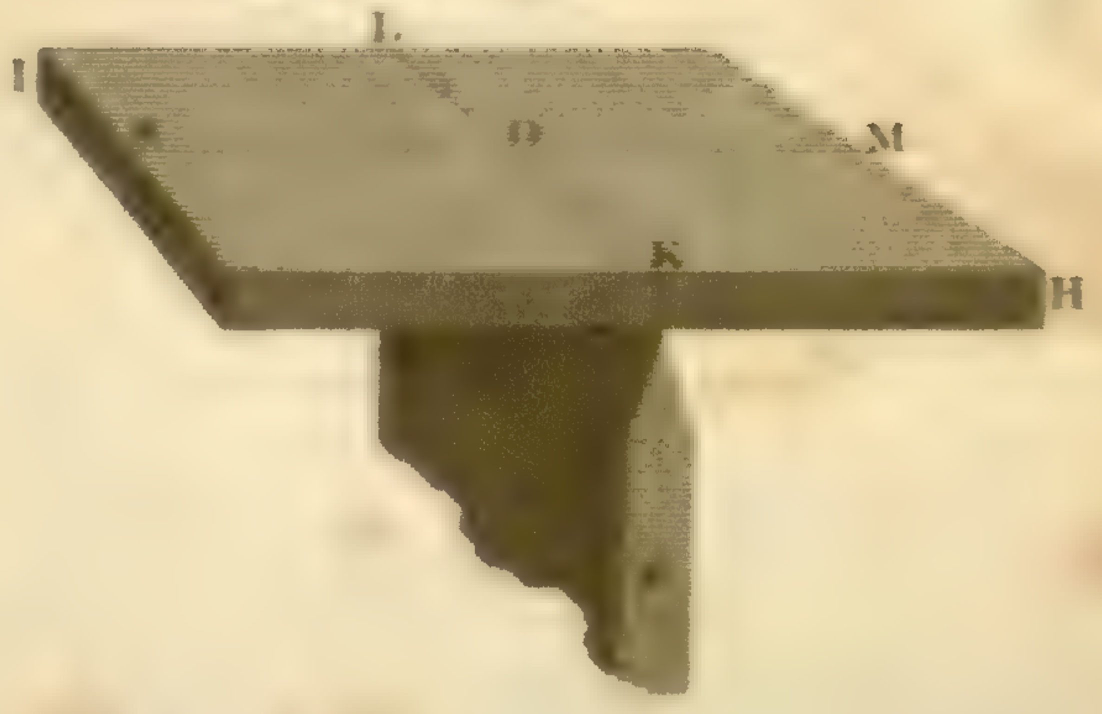


Fig 51.



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MECHANICS.

CENTER OF GYRATION, OSCILLATION &c.

Fig. 54.

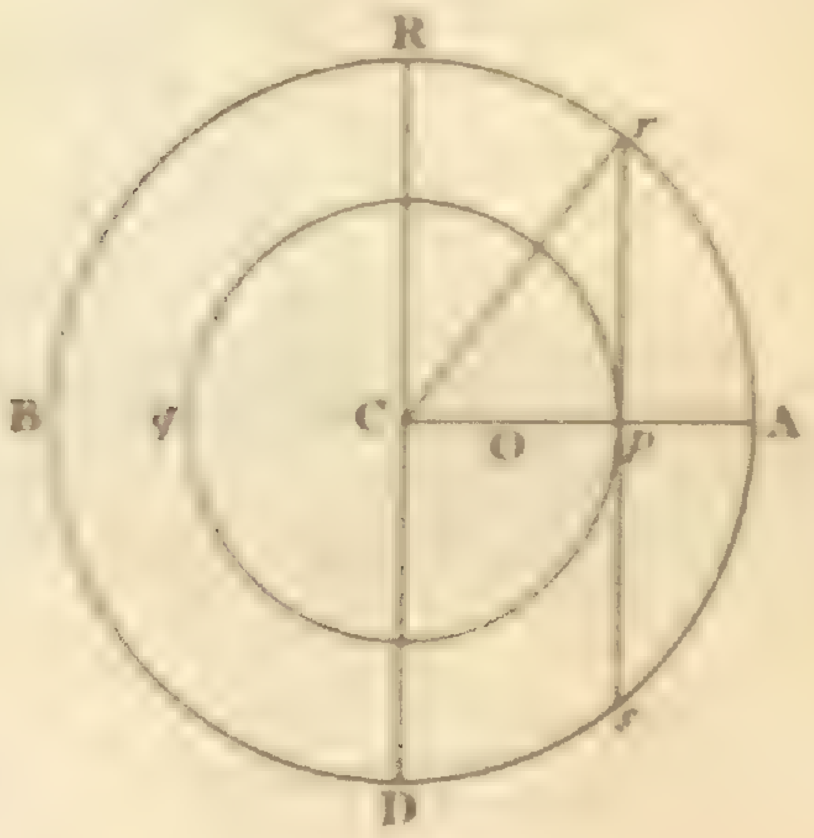


Fig. 52.

Fig. 53.

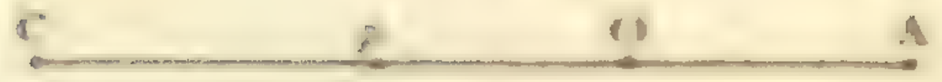


Fig. 55.

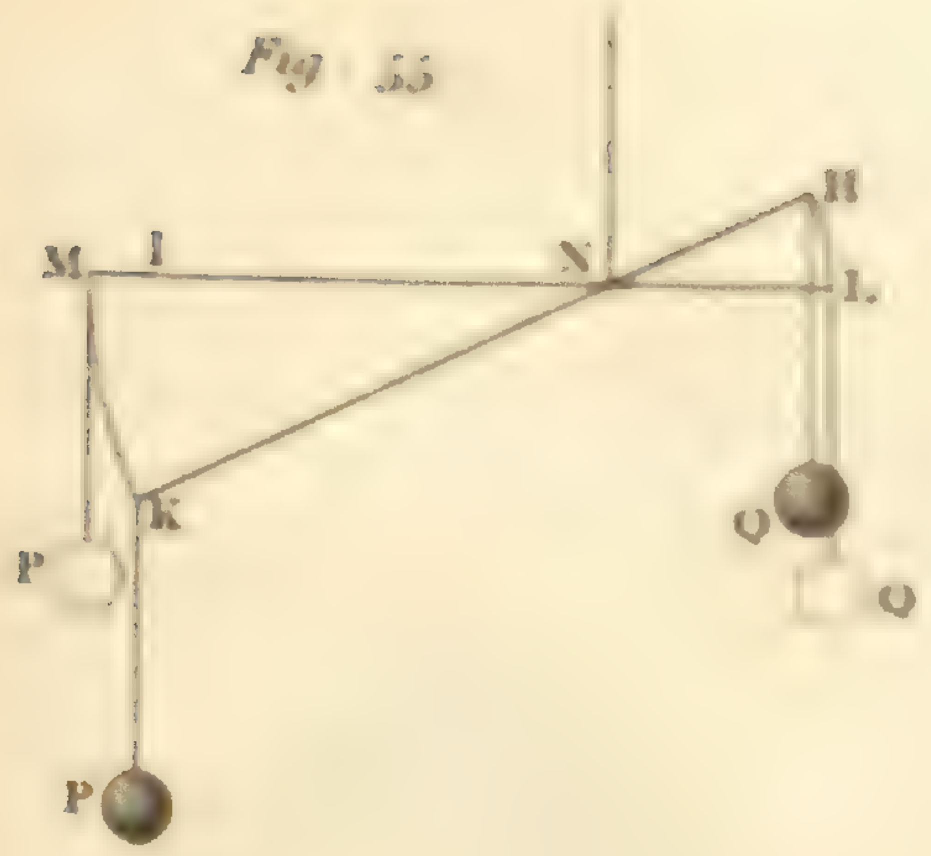


Fig. 56.

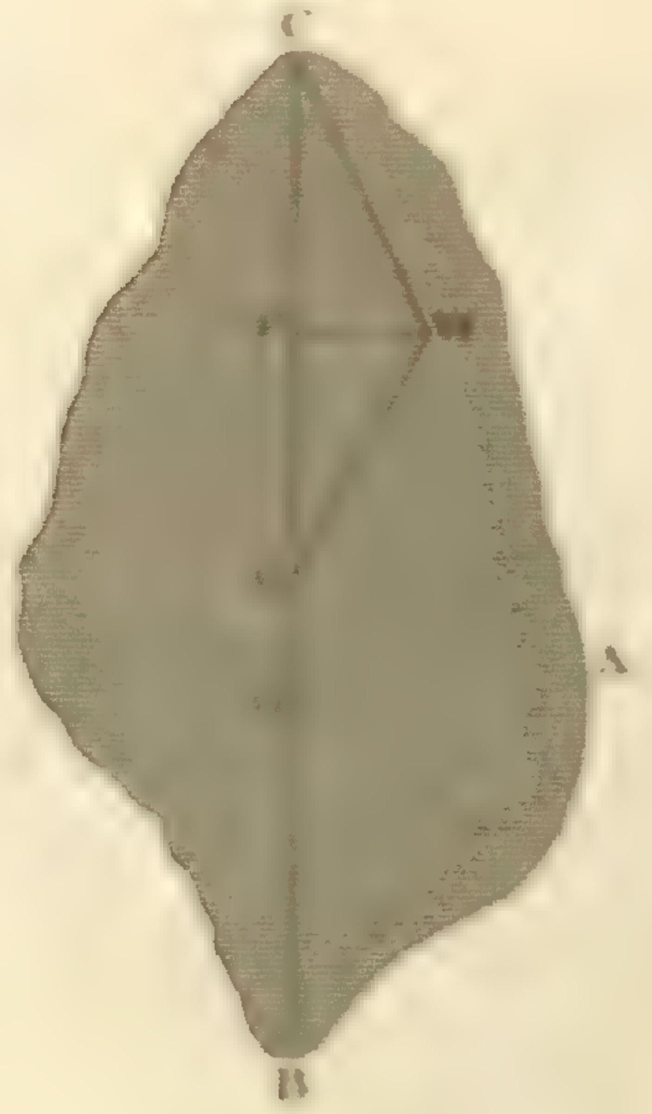
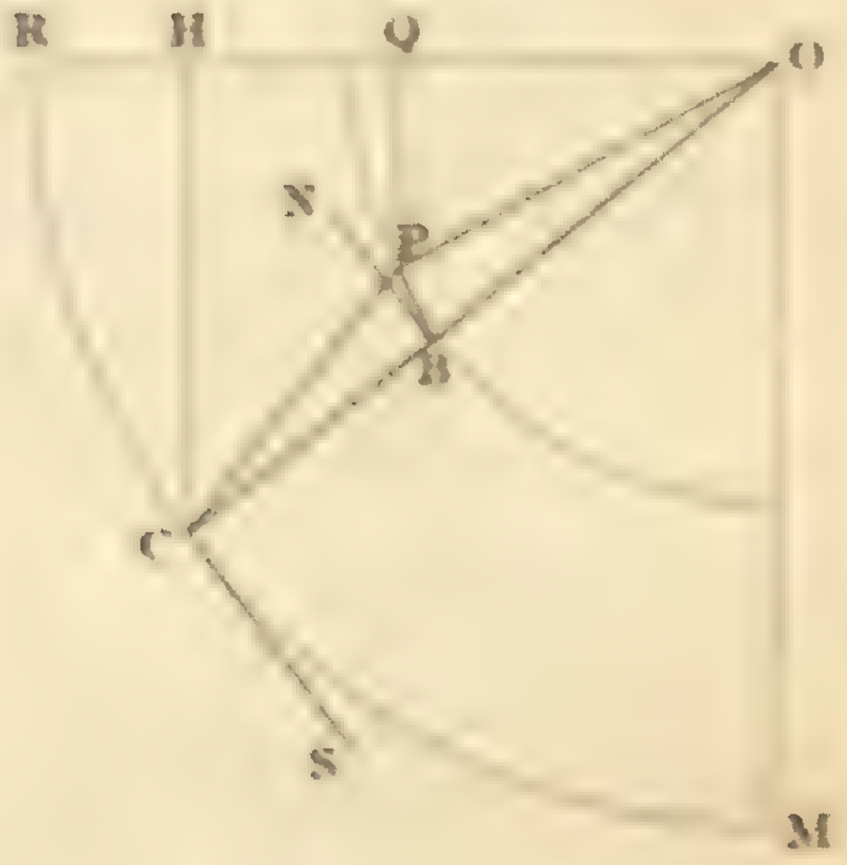


Fig. 57.



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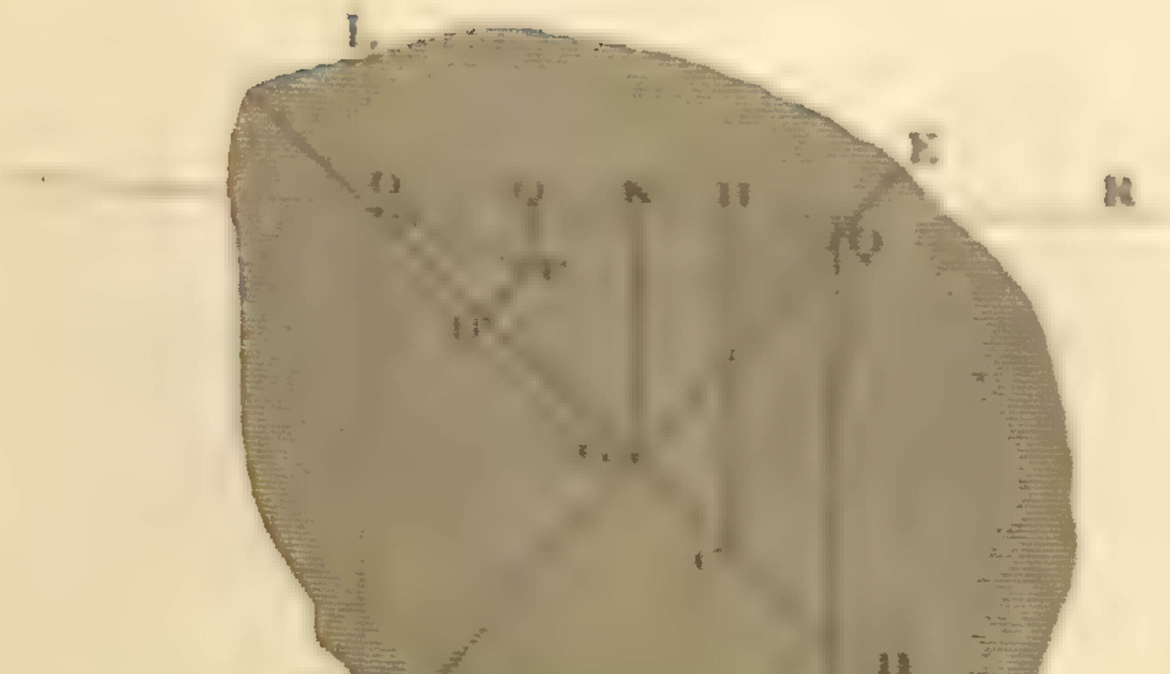
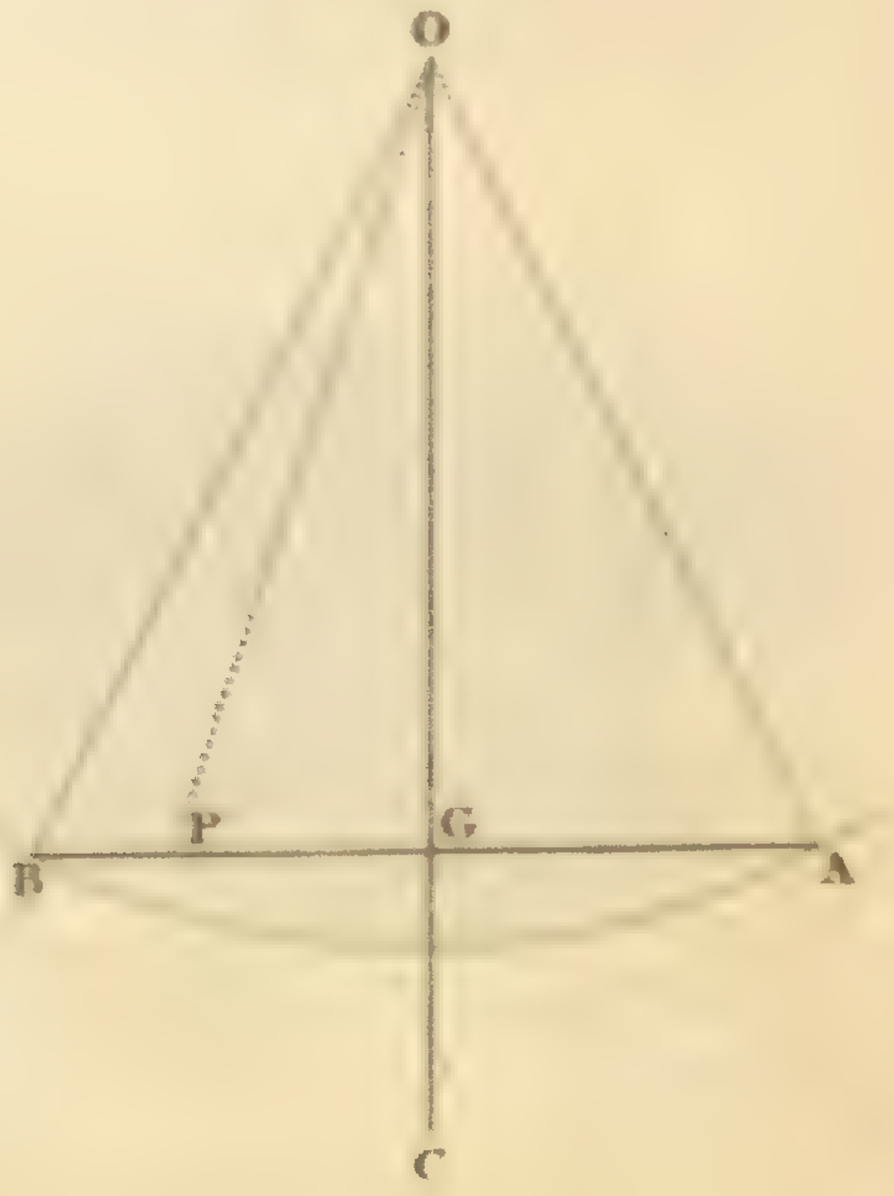


Fig. 59.

Fig. 60.



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CENTER OF OSCILLATION AND CENTER OF PERCUSSION.

Fig. 61.

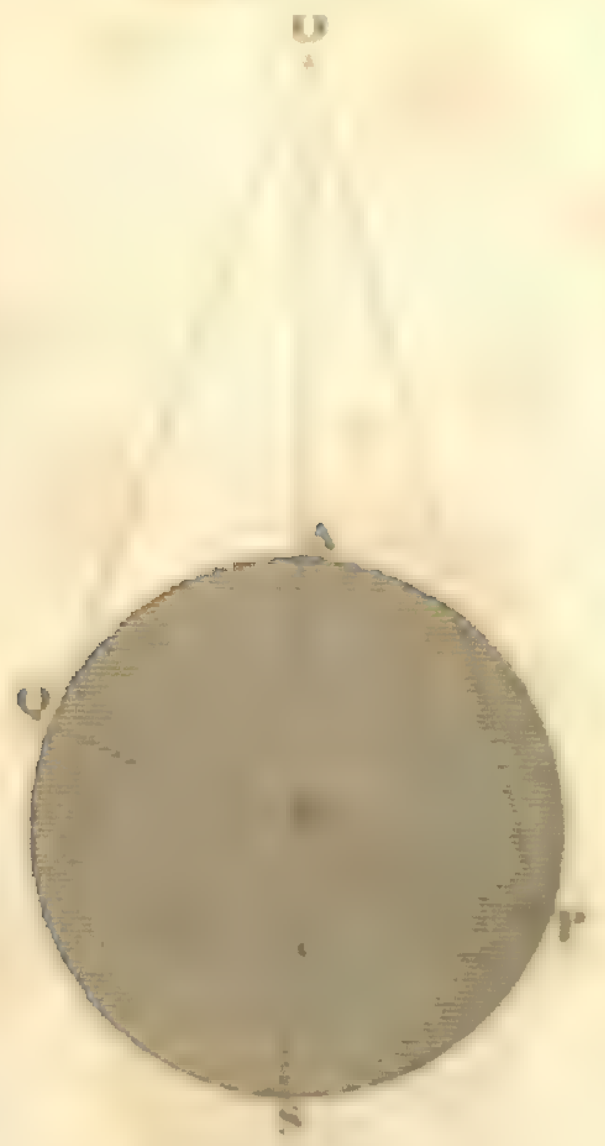


Fig. 62.

Fig. 63.

Fig. 64.

Fig. 65.

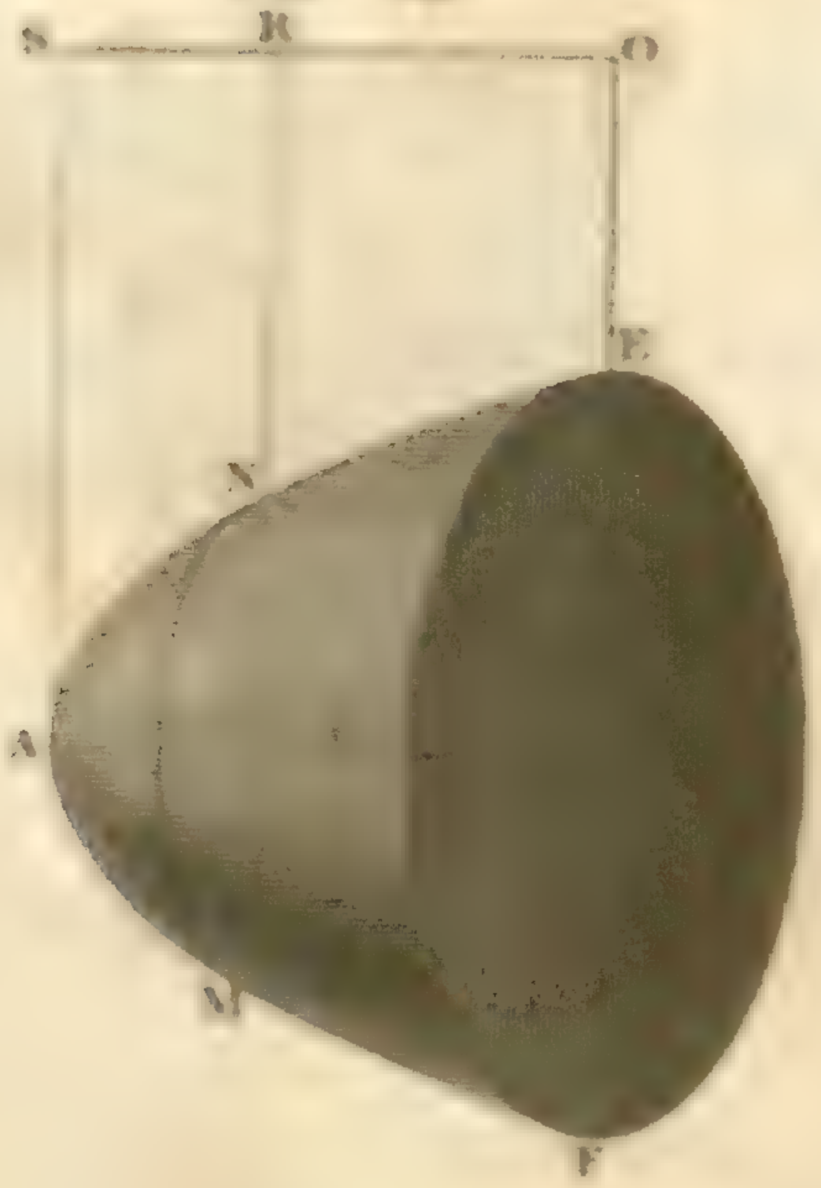


Fig. 66.

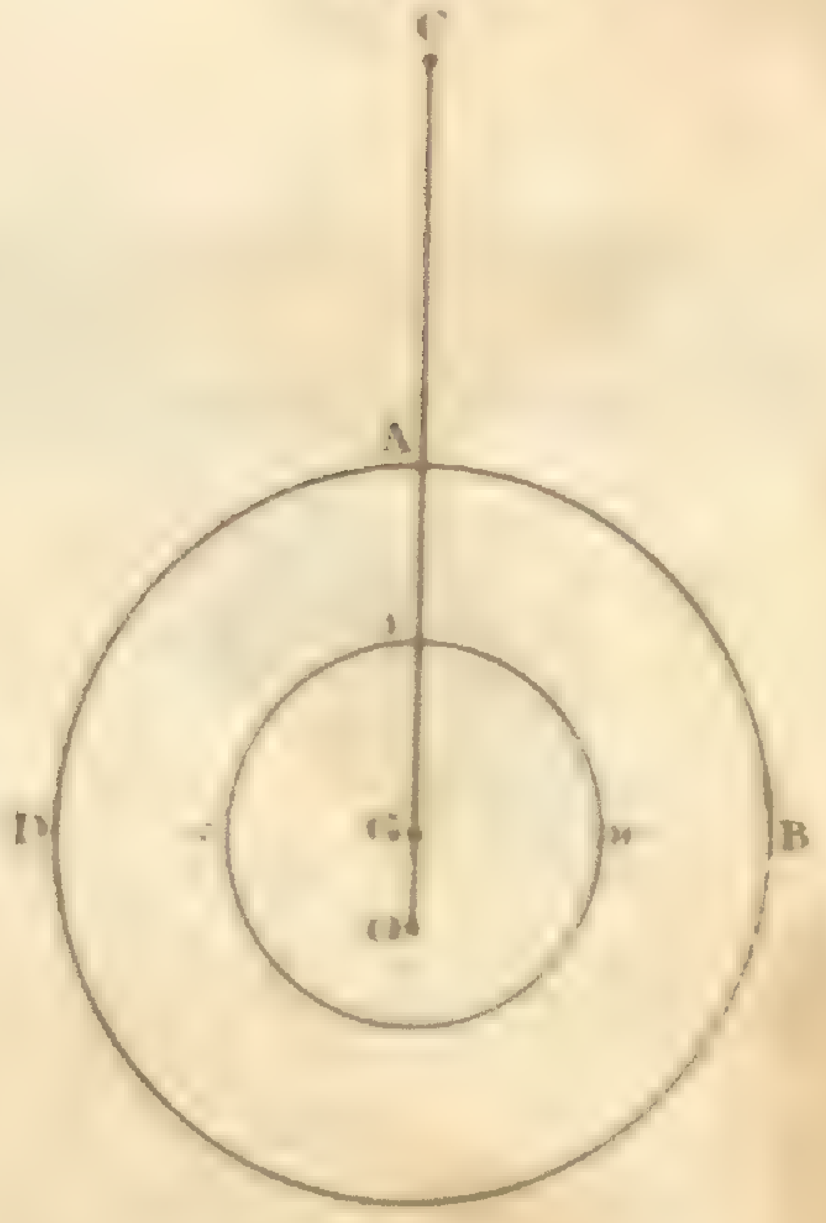


Fig. 67.

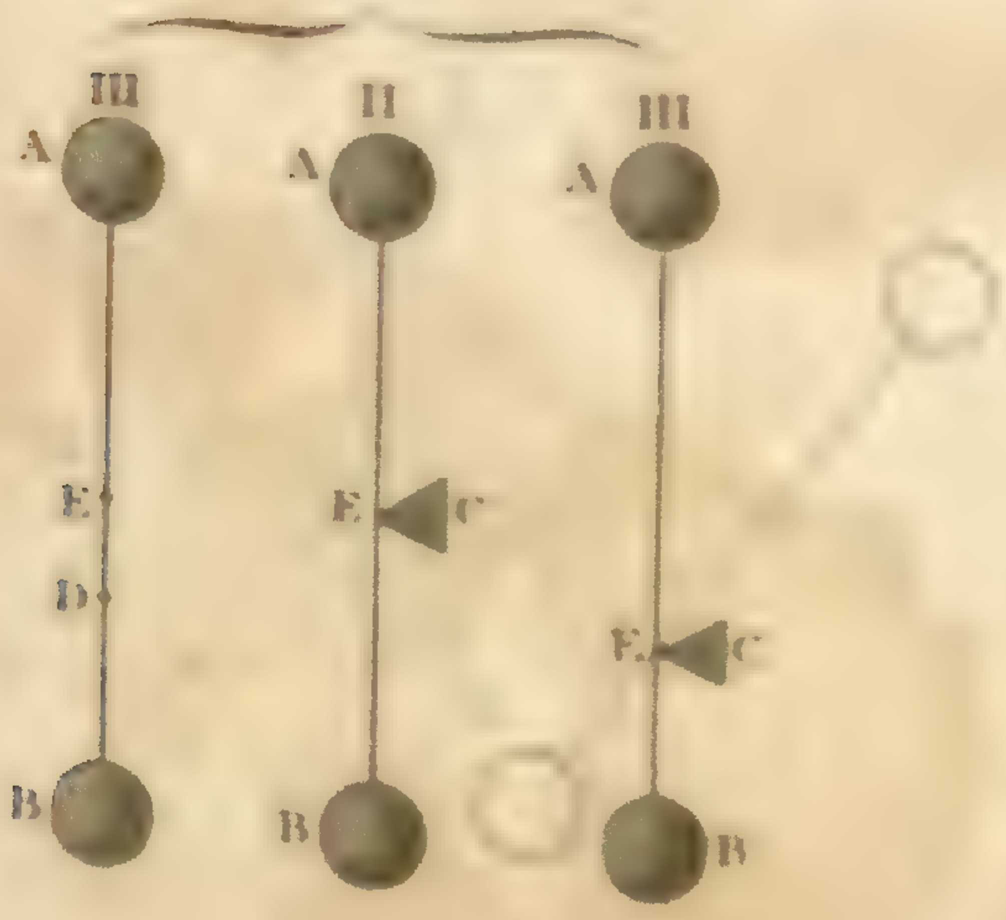
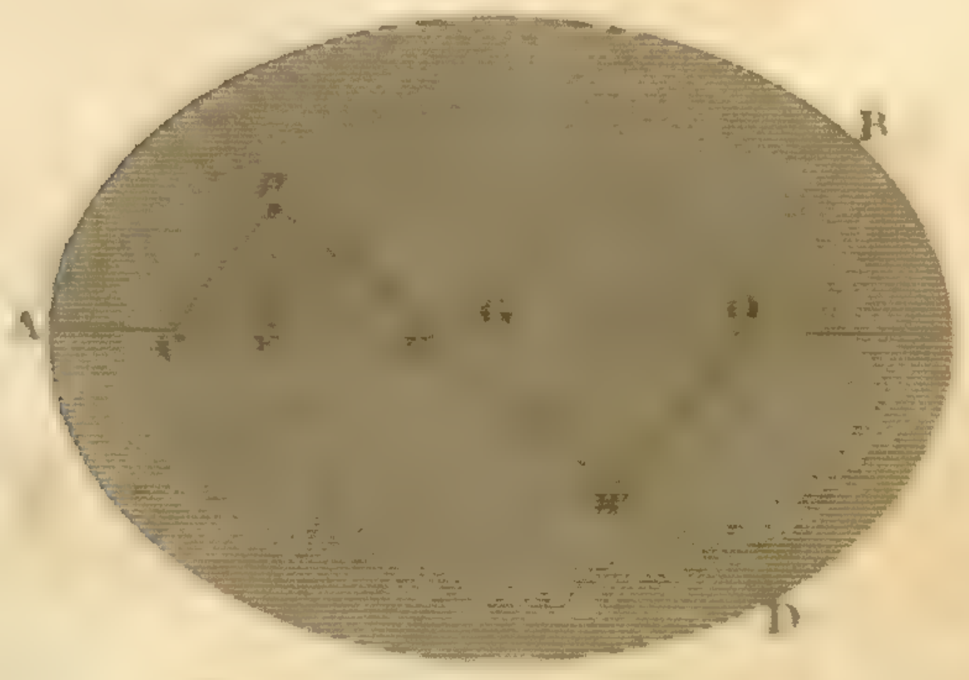


Fig. 68.

Fig. 69.



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MECHANICS.

PLATE IX.

CENTER OF POSITION, OF PRESSURE, OF ROTATION &c.

Fig. 70.

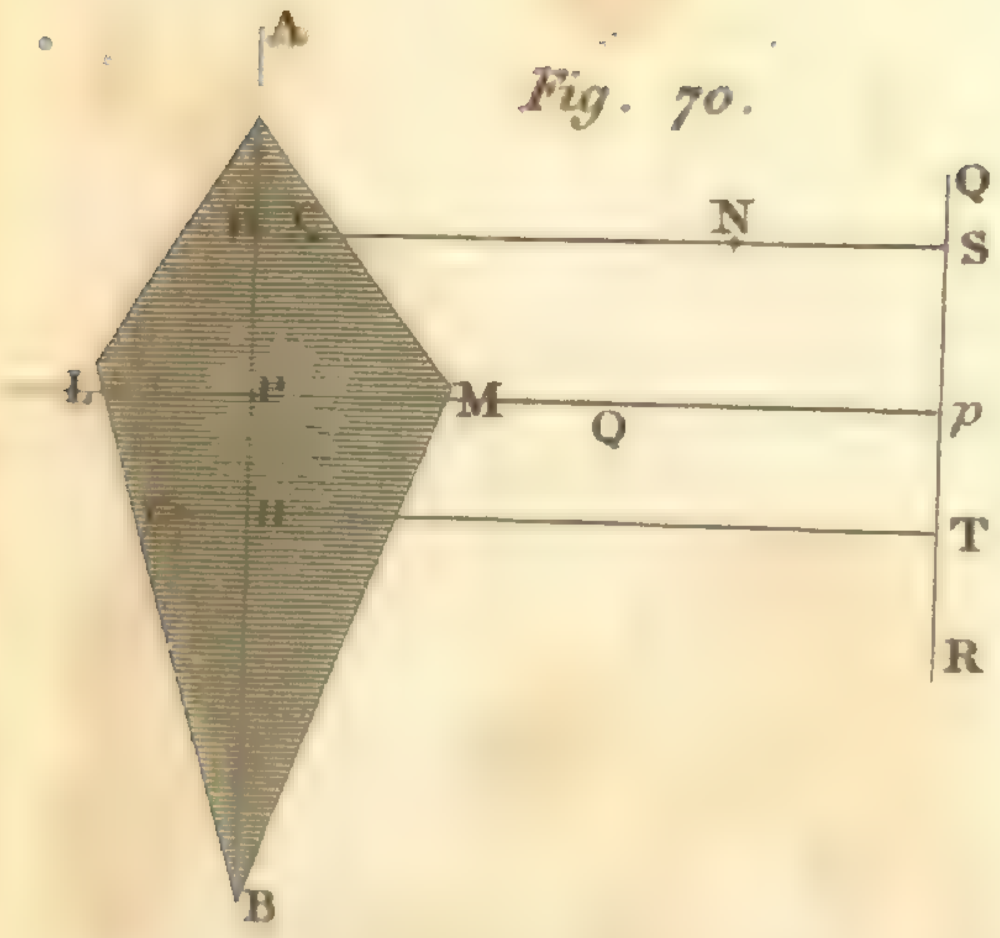


Fig. 71.

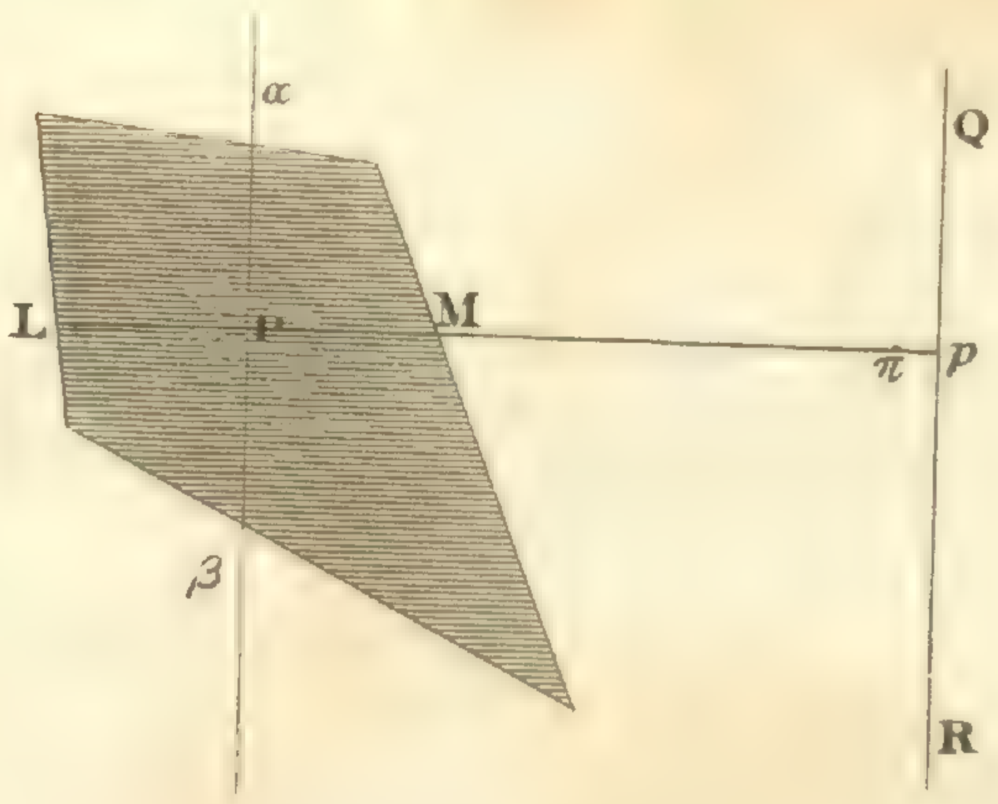


Fig. 72.

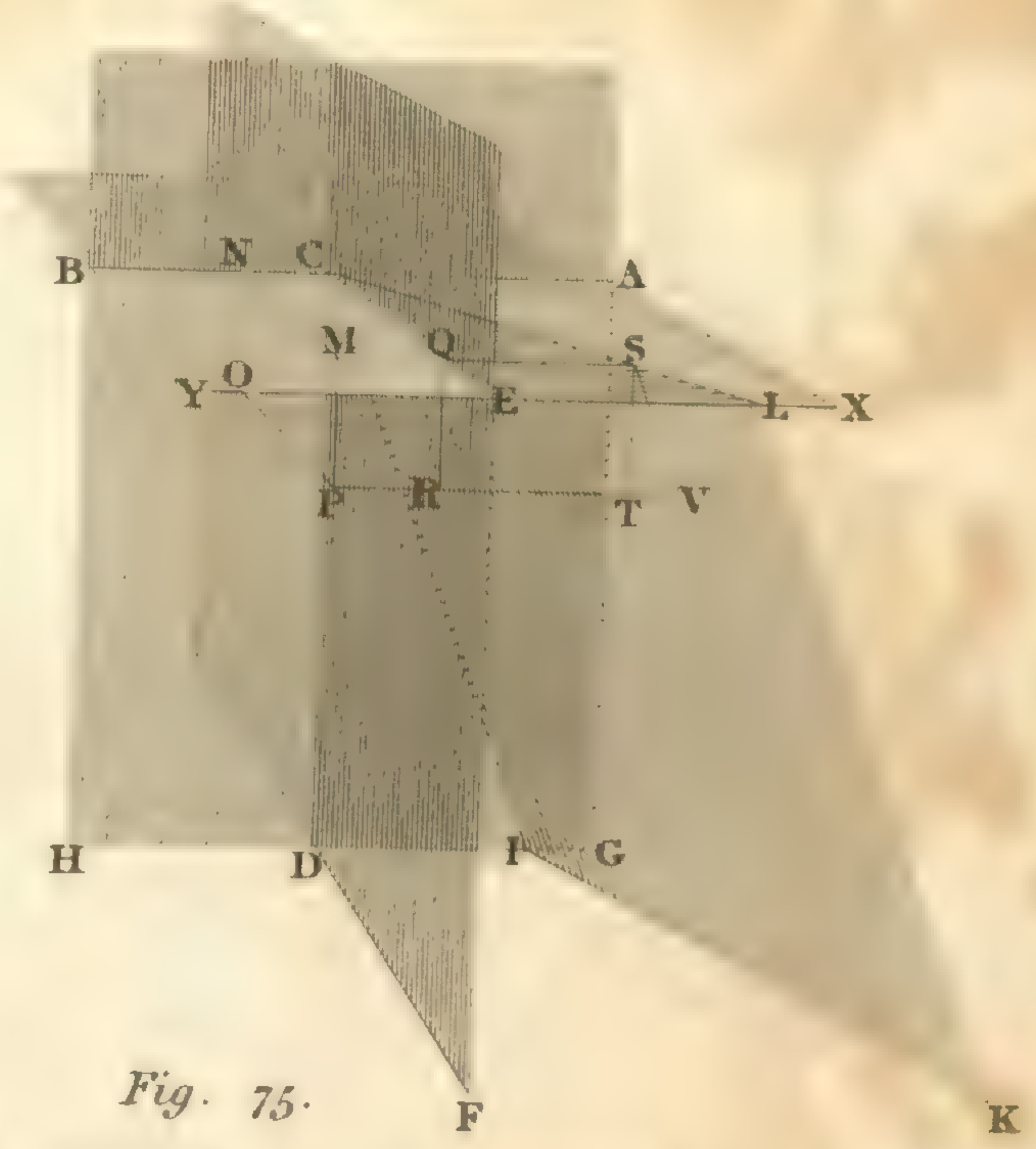


Fig. 73.

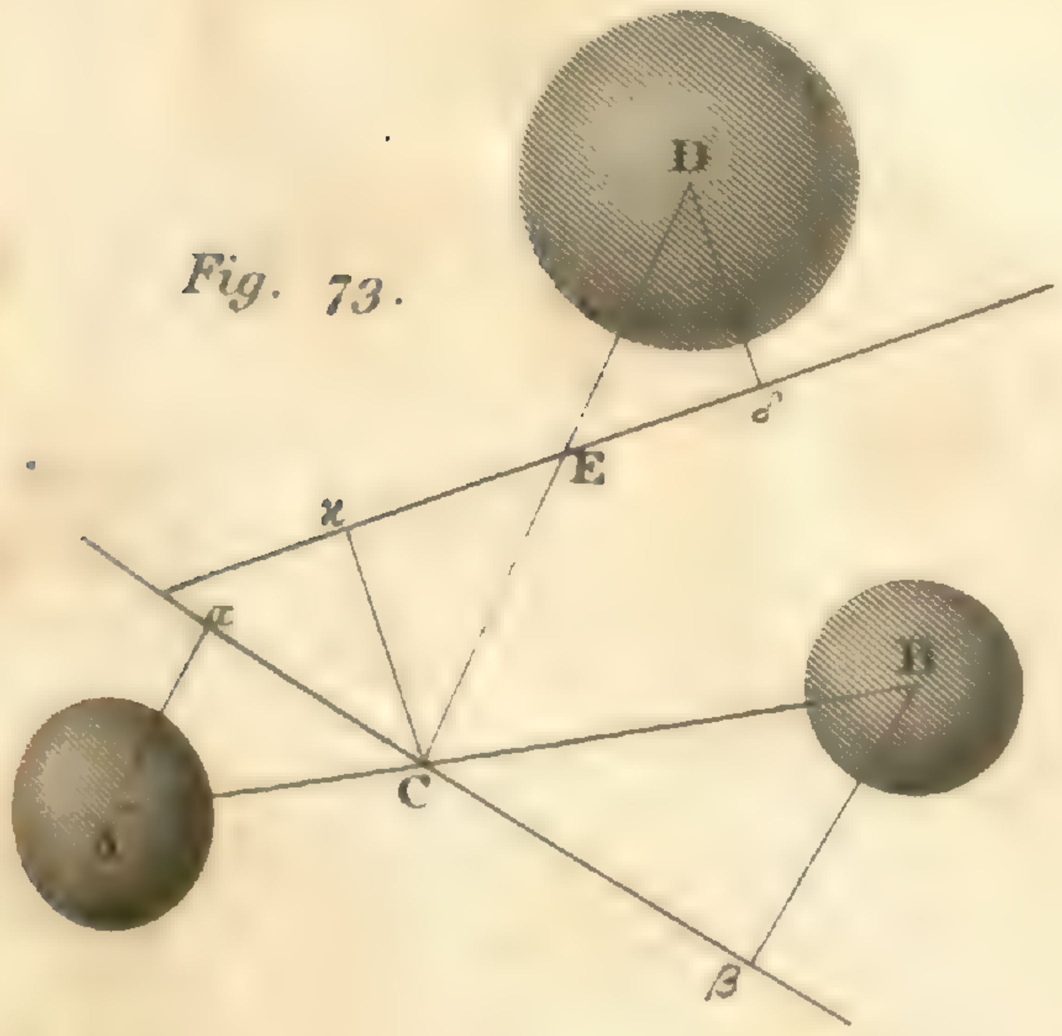


Fig. 74.

Fig. 75.

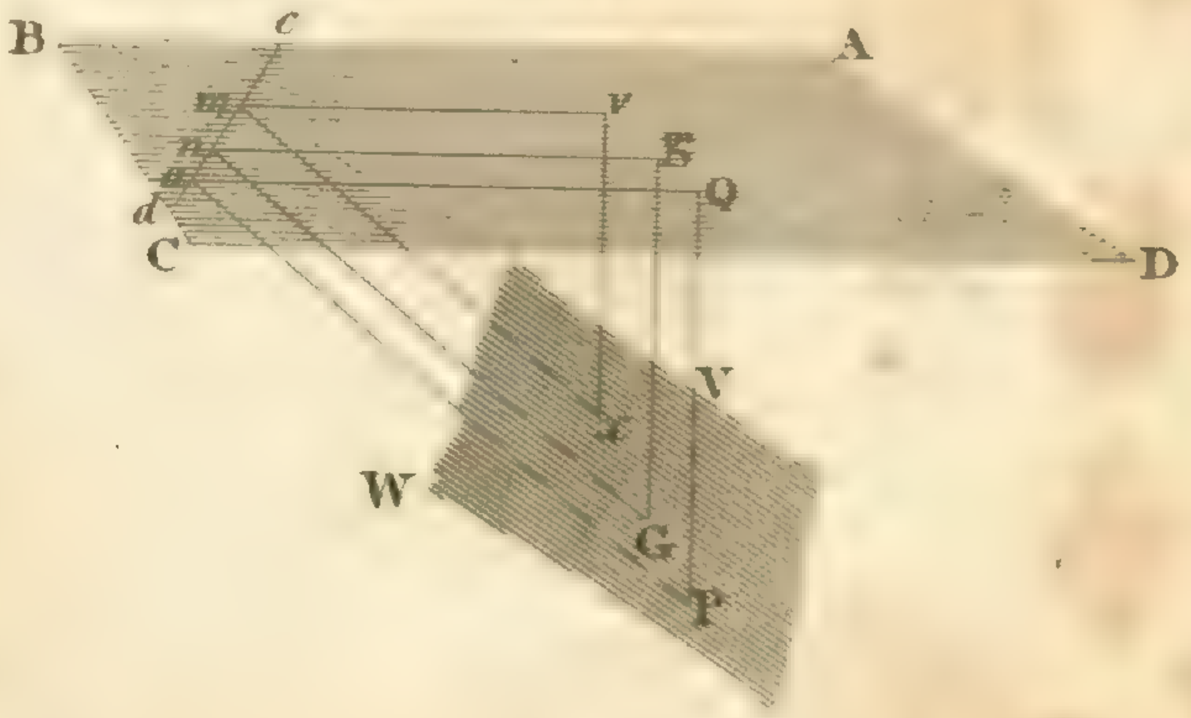


Fig. 76.

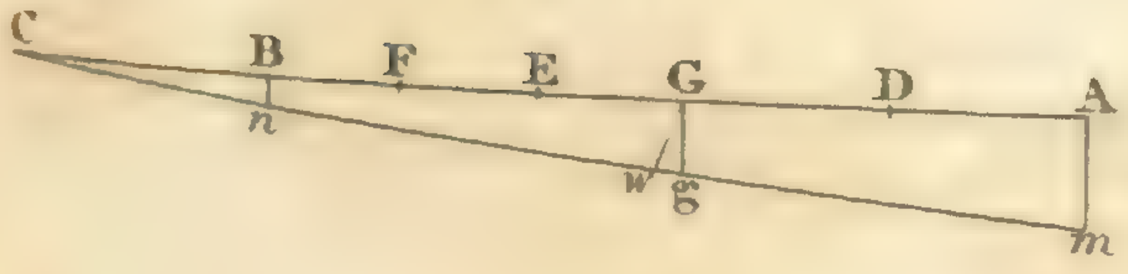


Fig. 77.

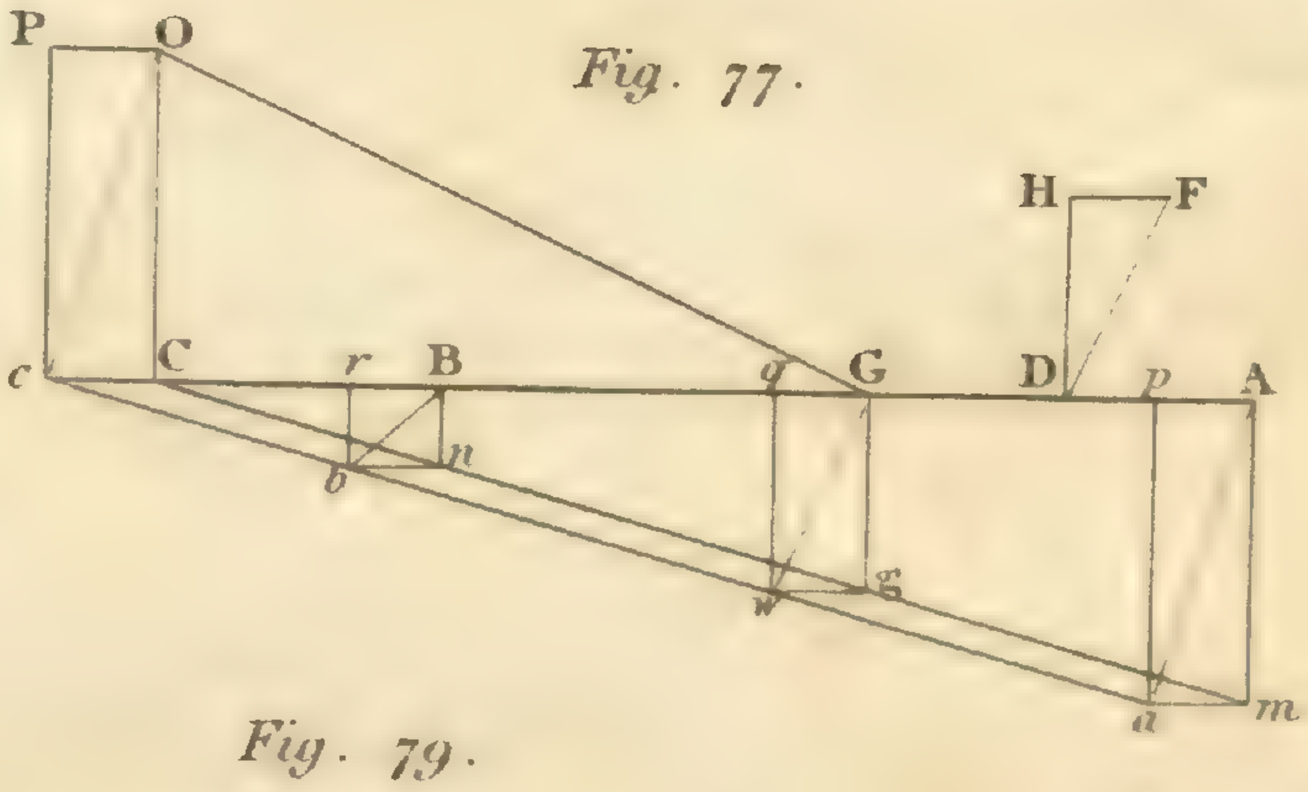


Fig. 78.

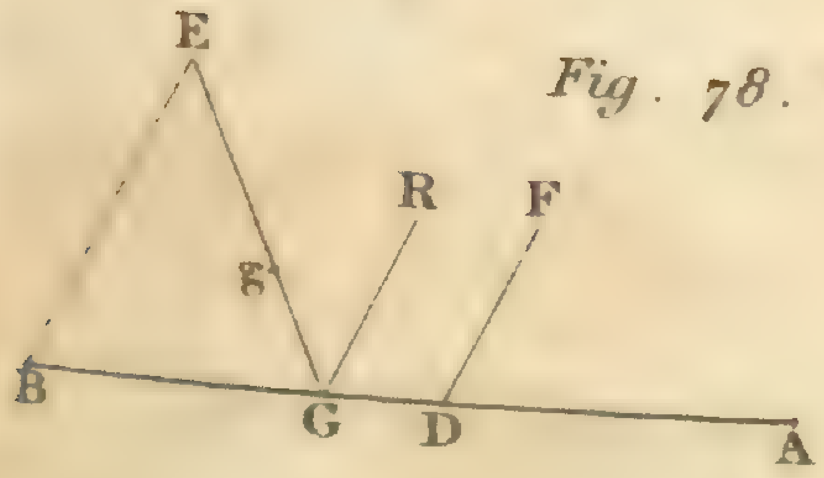


Fig. 79.

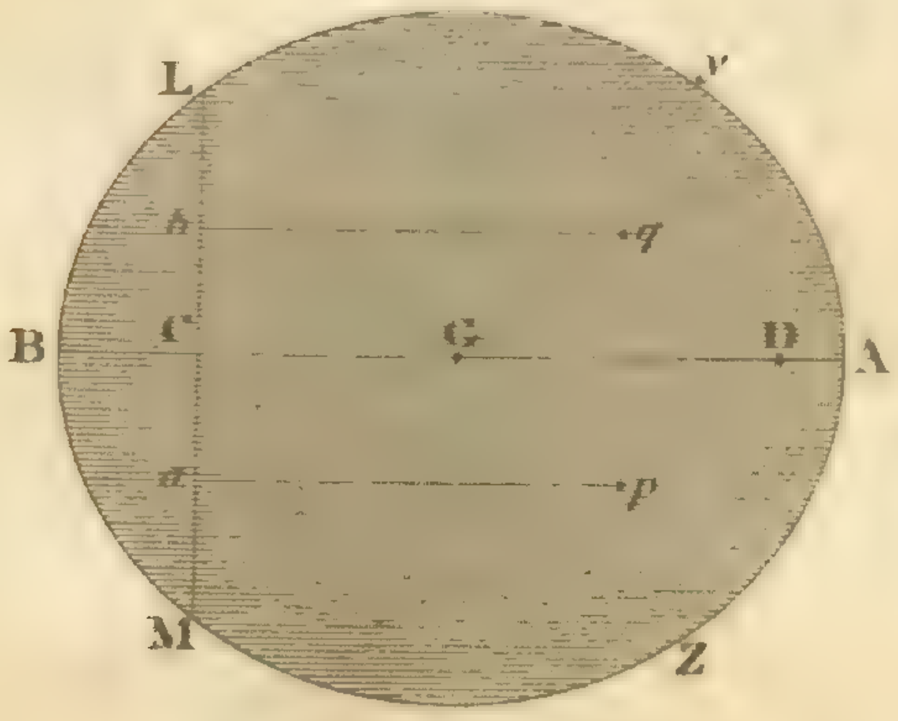
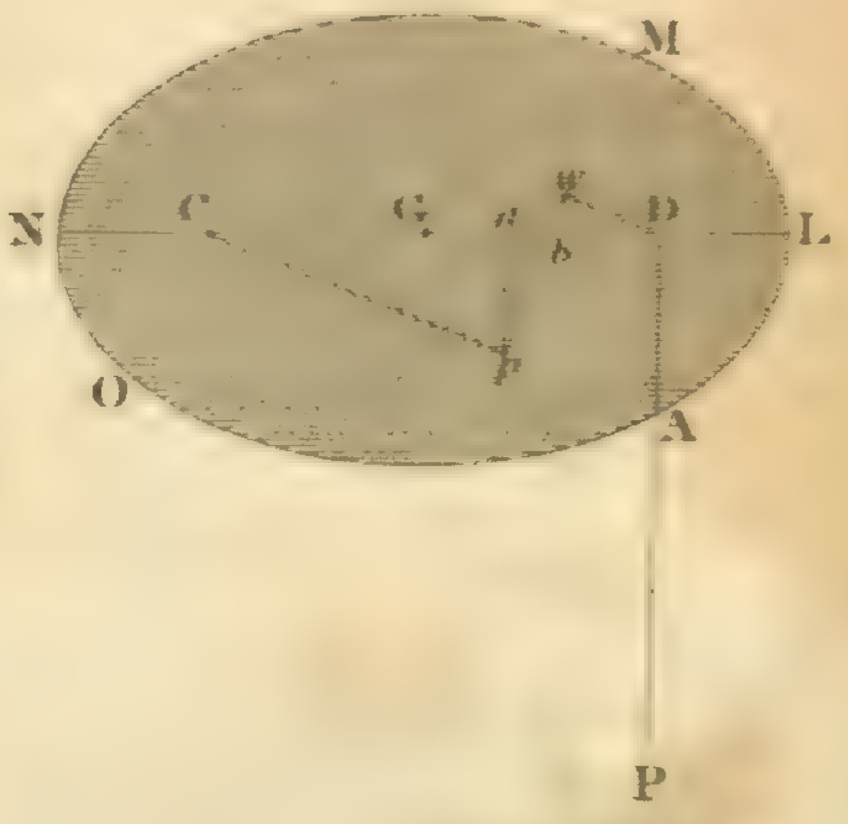


Fig. 80.



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MECHANICS.

CENTRAL, CENTRIFUGAL, AND CENTRIPETAL FORCES.

Fig. 81.

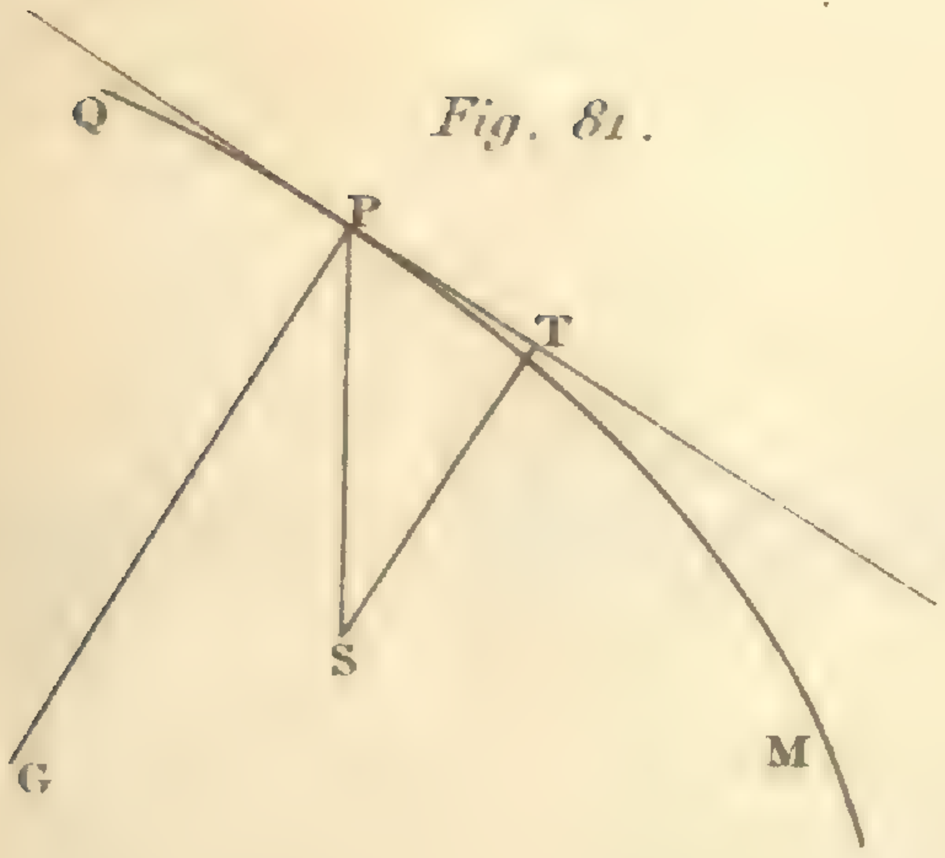


Fig. 82.

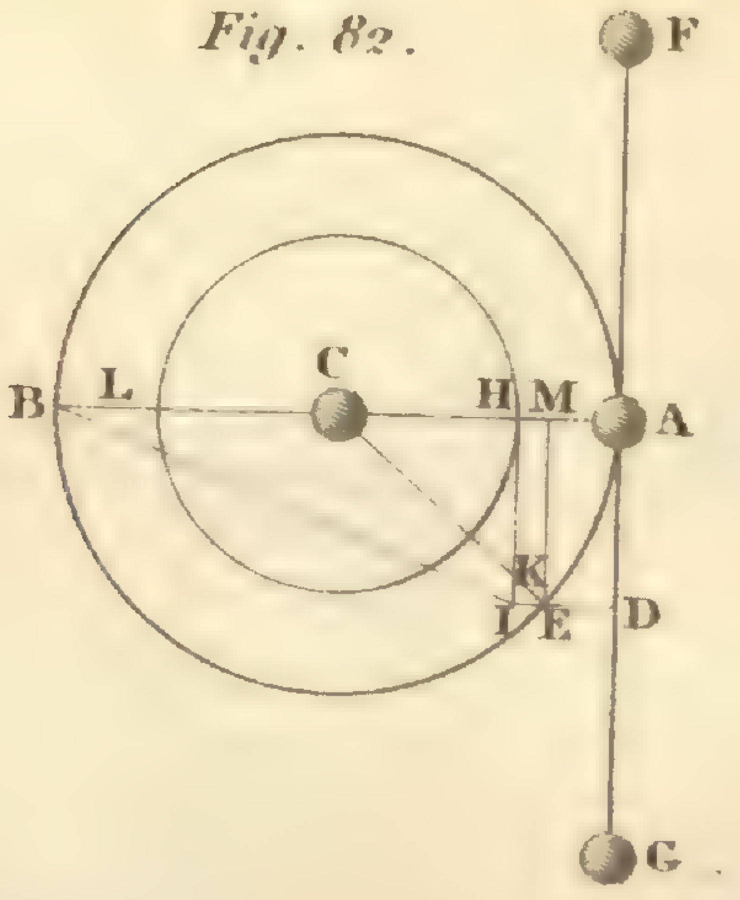


Fig. 83.

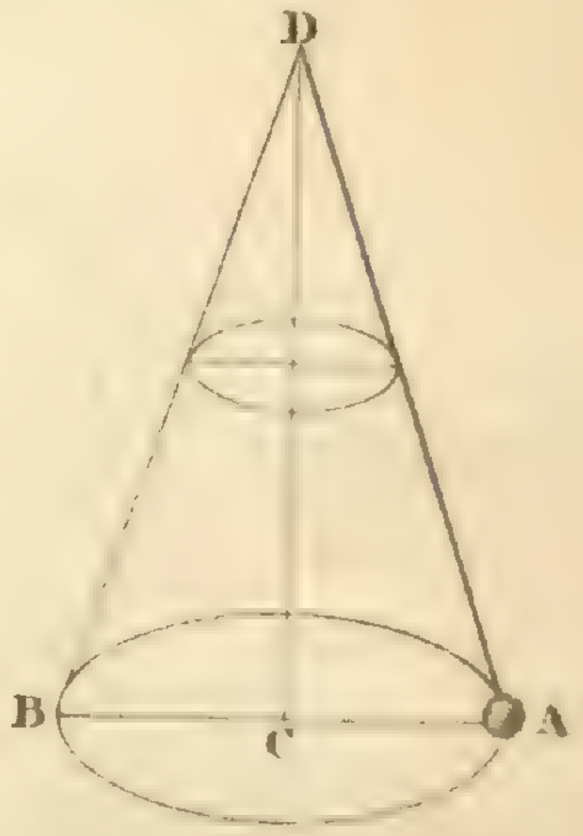


Fig. 84.

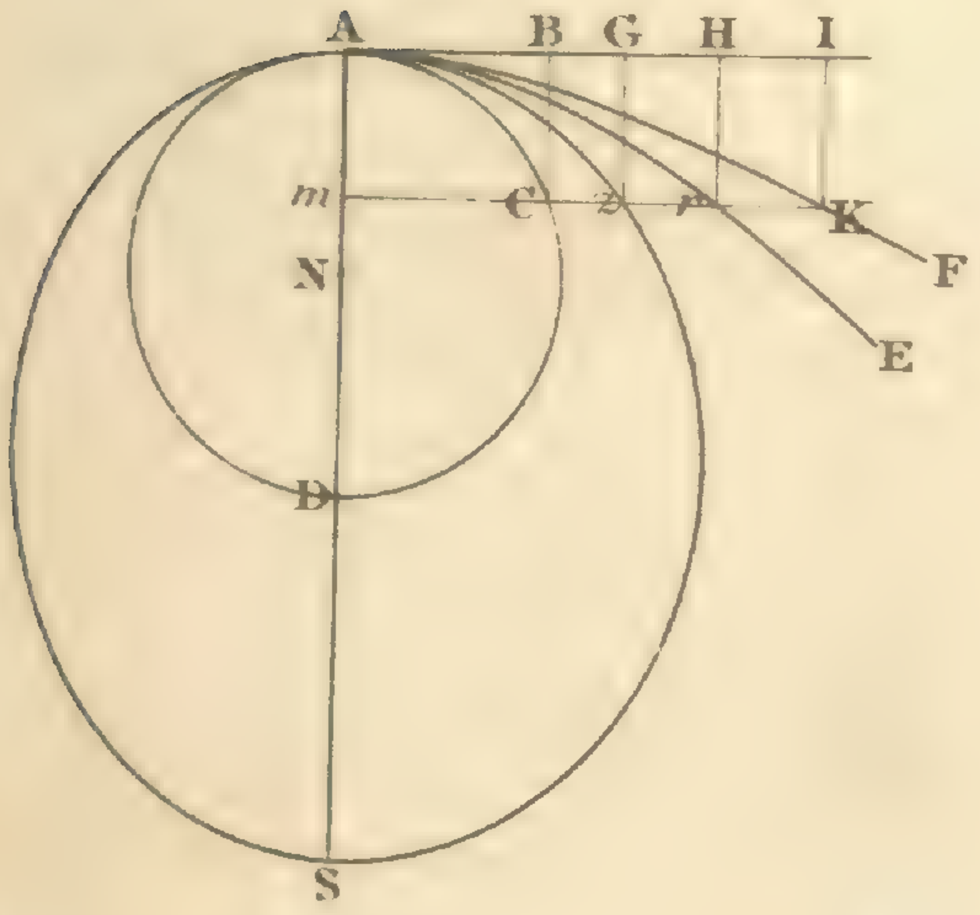


Fig. 85.

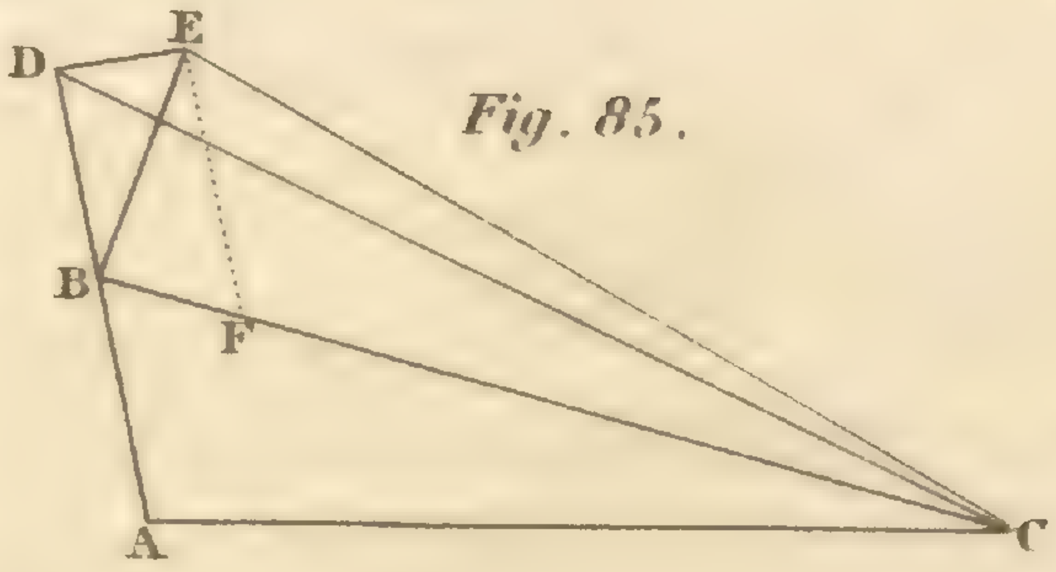


Fig. 86.

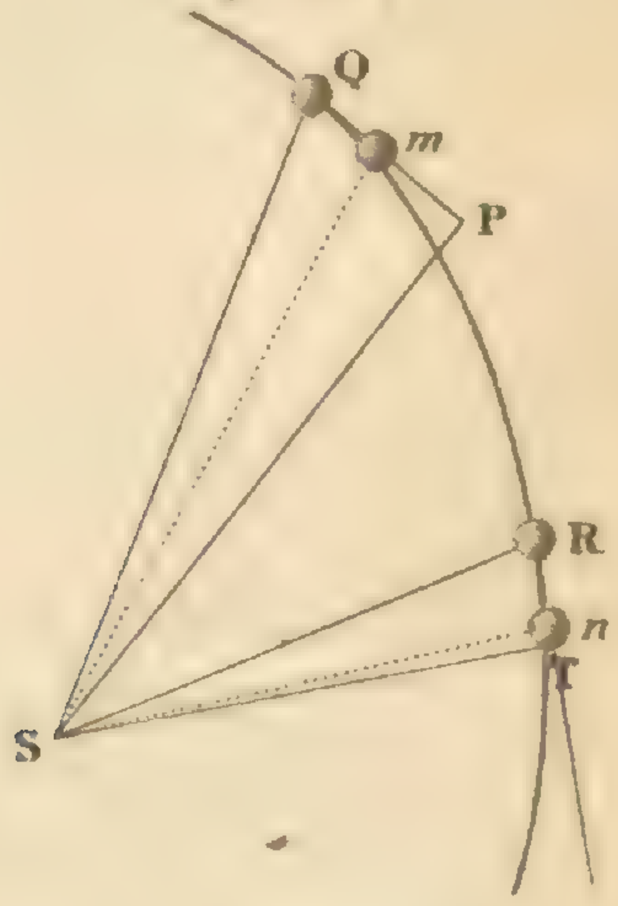


Fig. 87.

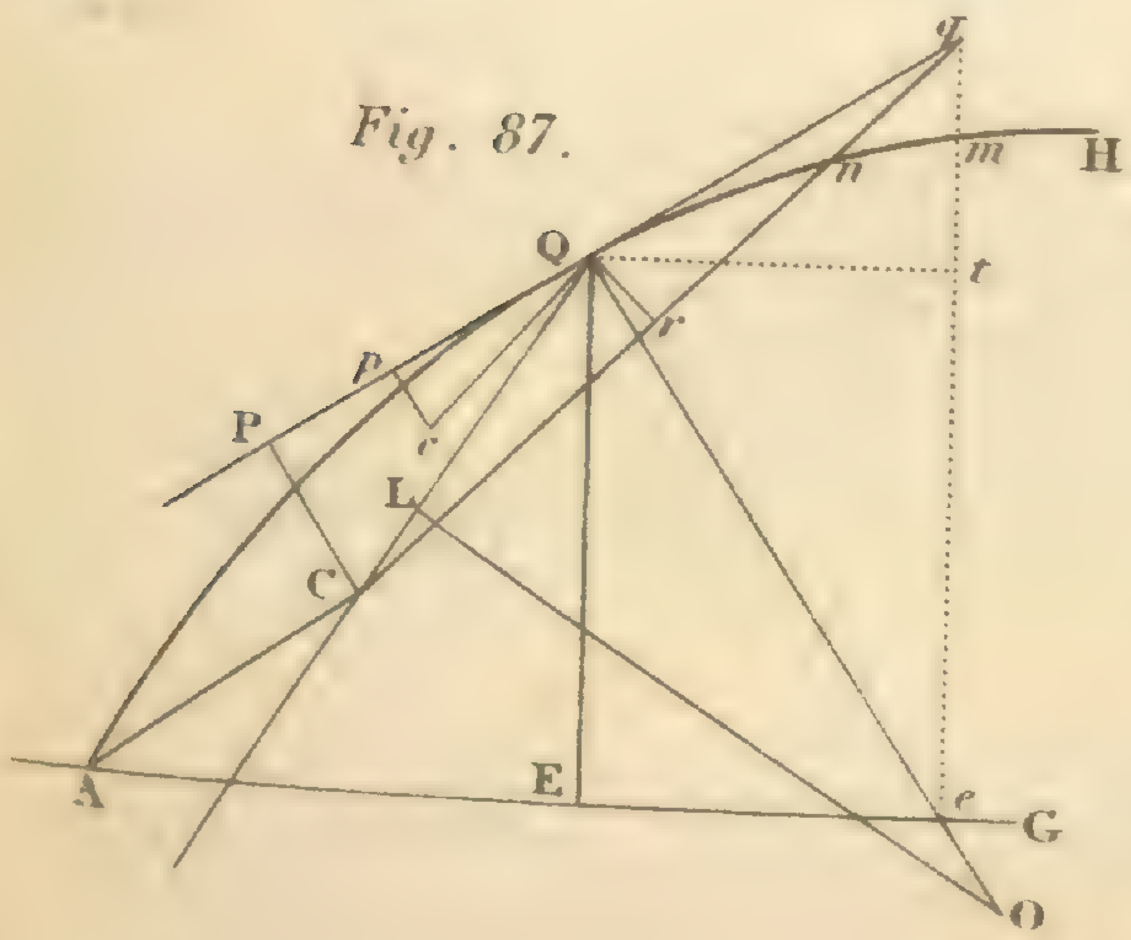


Fig. 88.

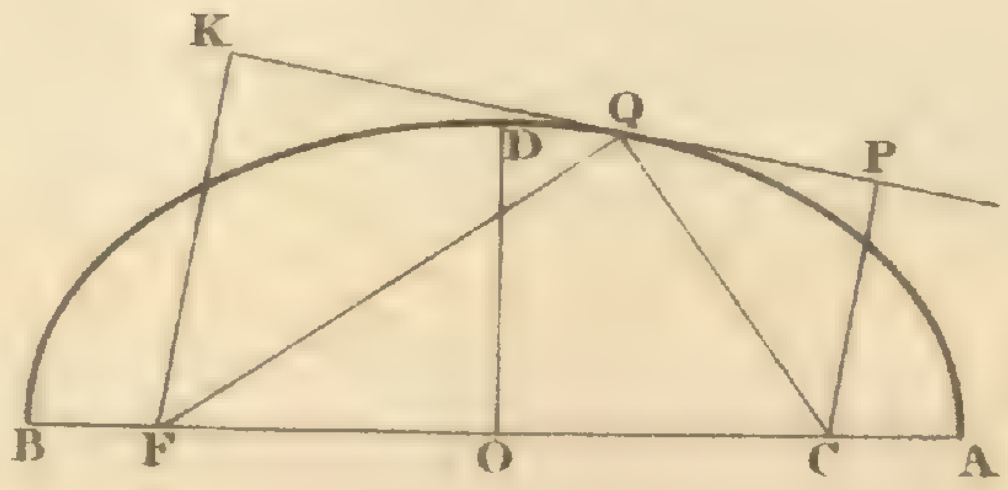


Fig. 89.

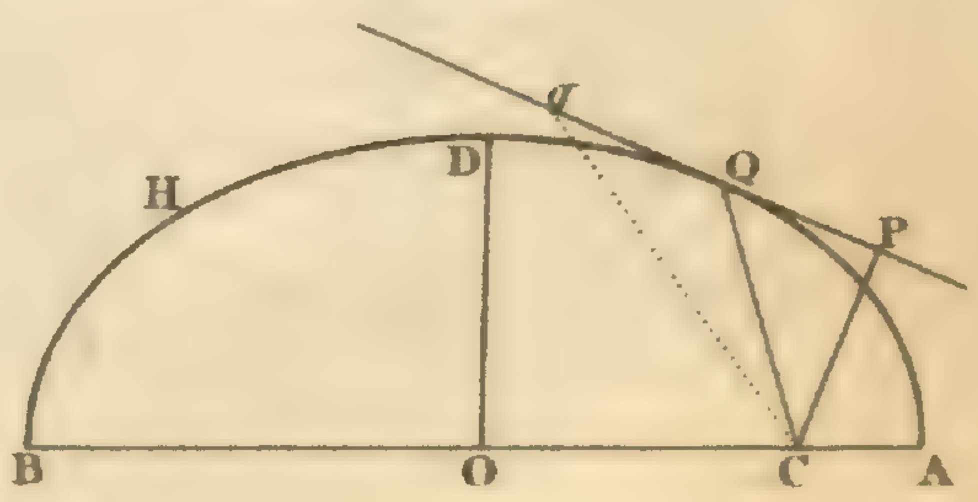


Fig. 90.

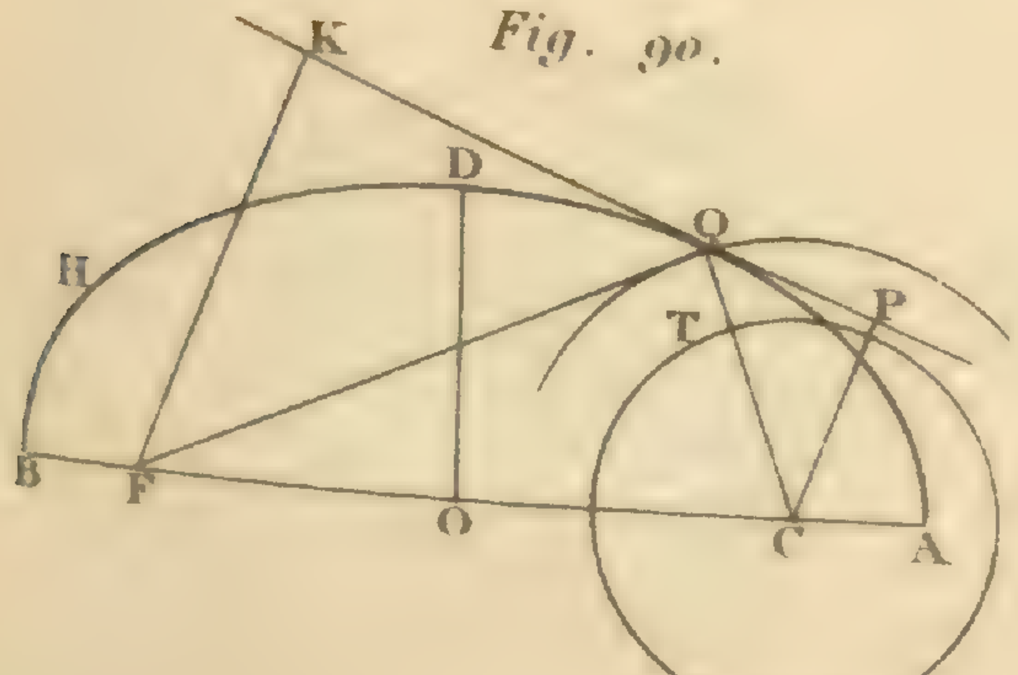


Fig. 91.

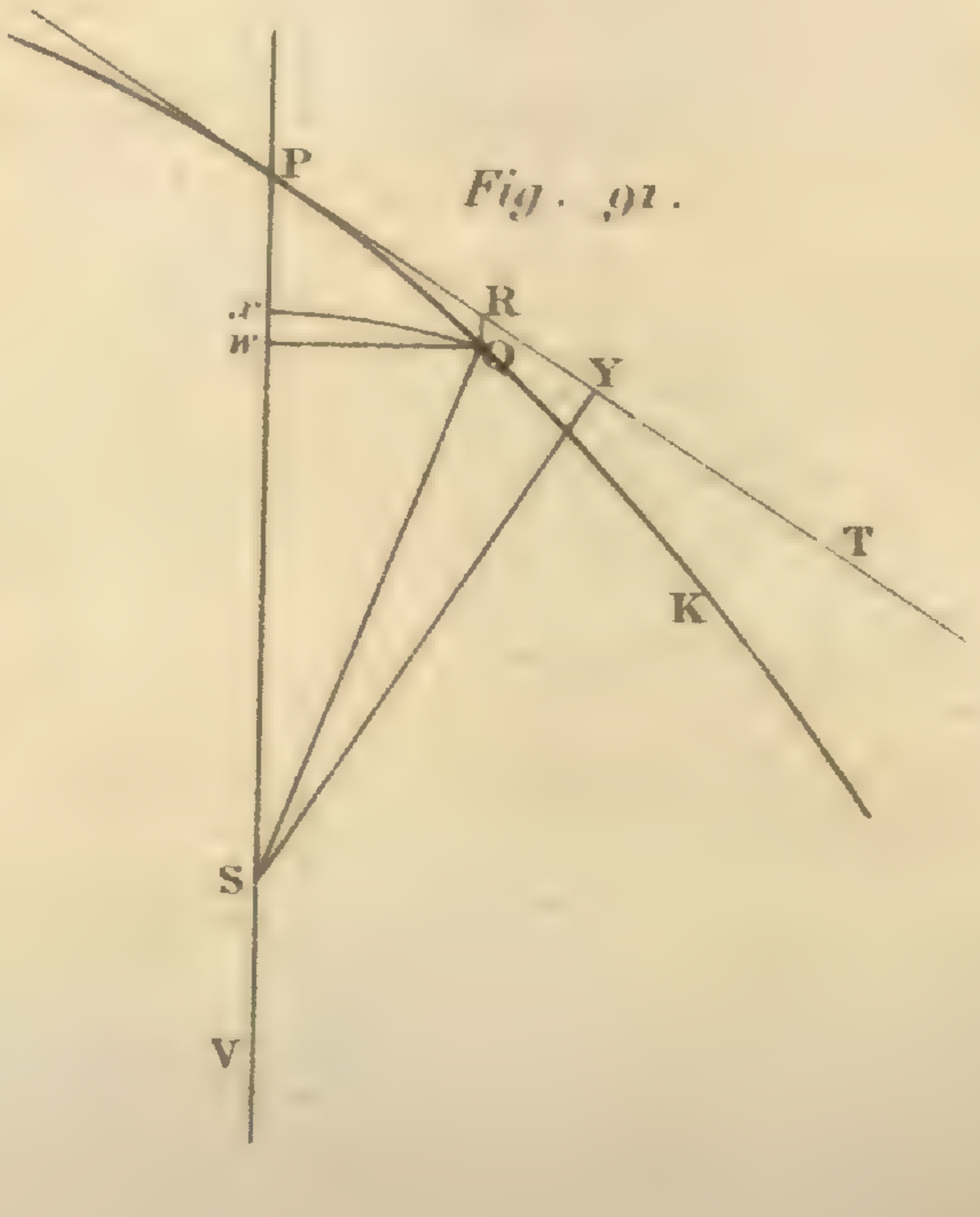
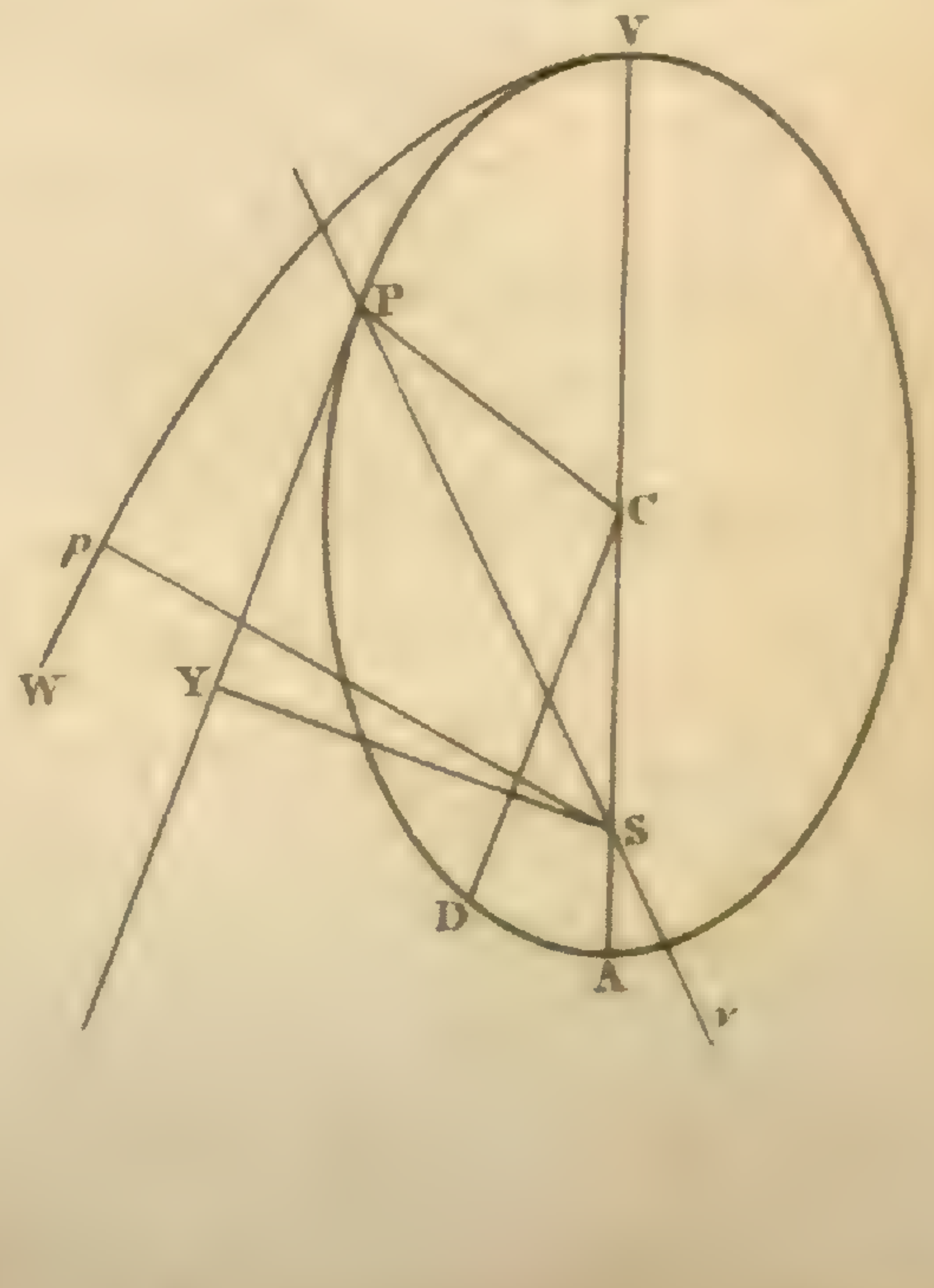


Fig. 92.



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CENTRIFUGAL MACHINE AND CENTROBARYC METHOD.

Fig. 93.

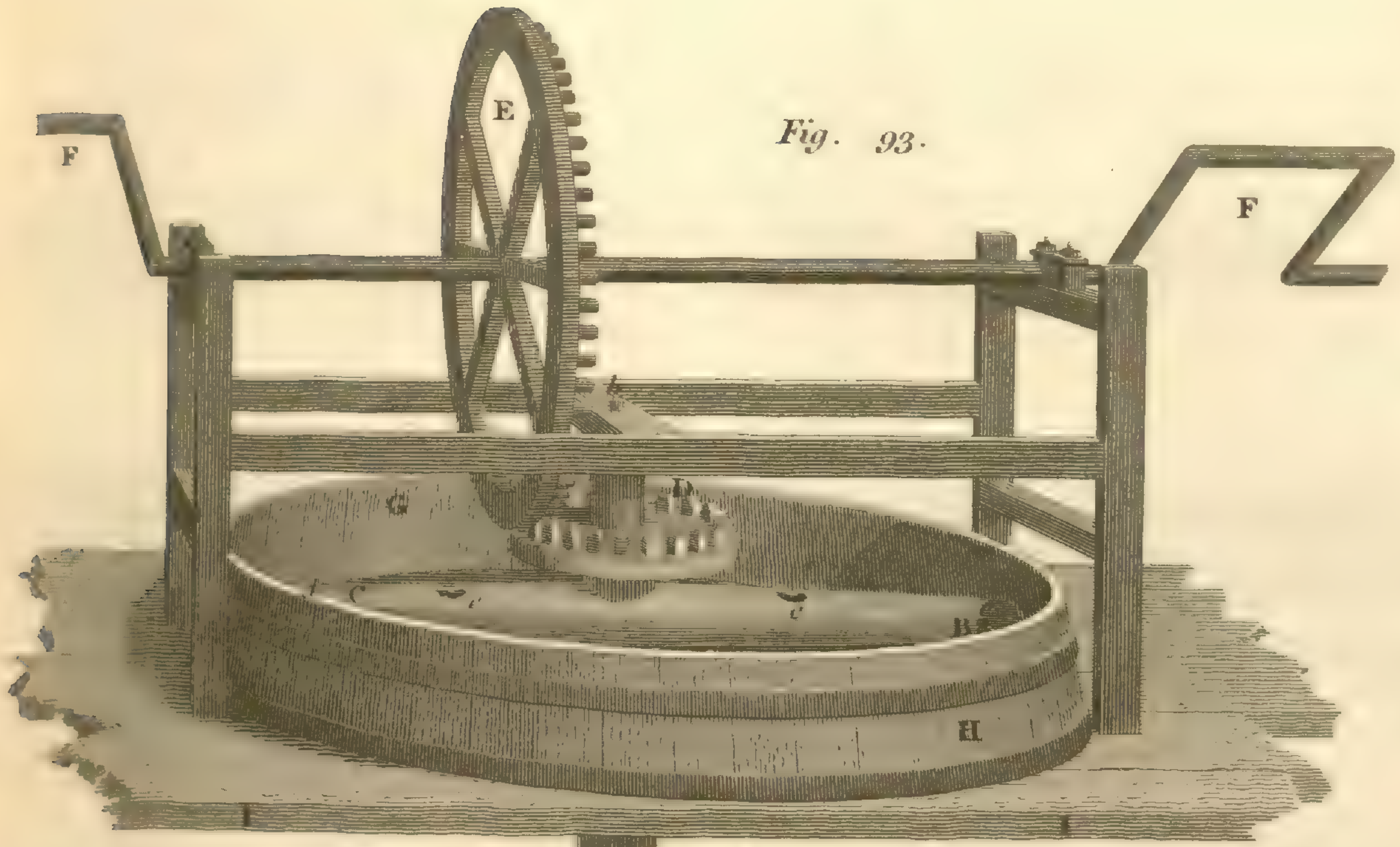
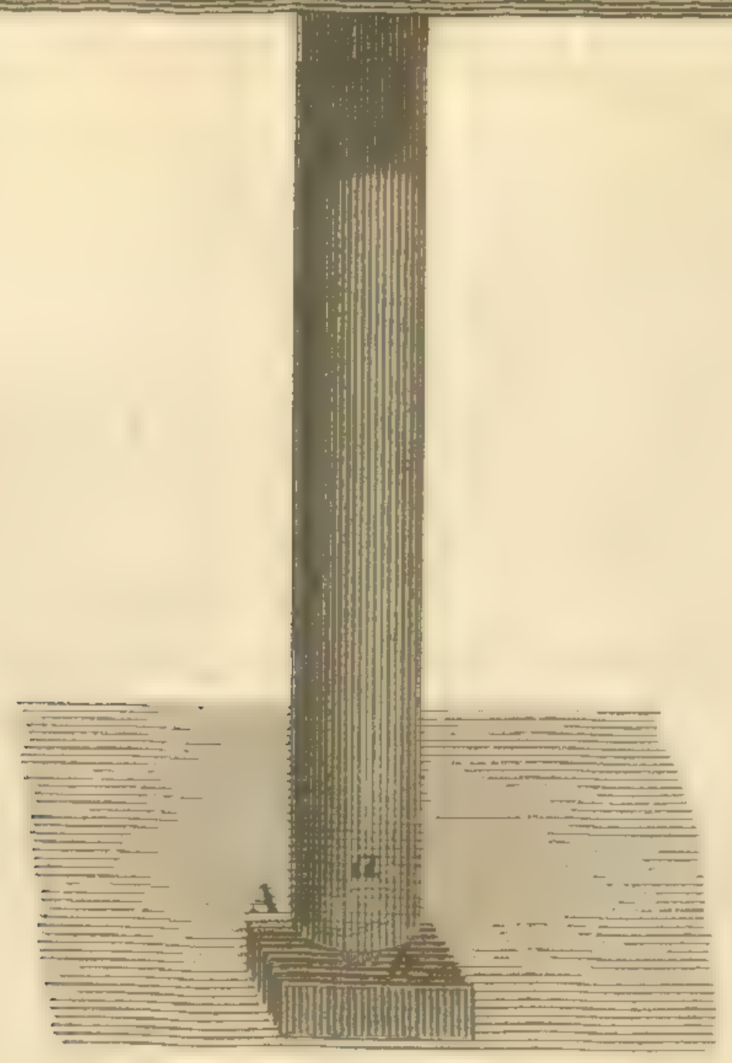



Fig. 94.

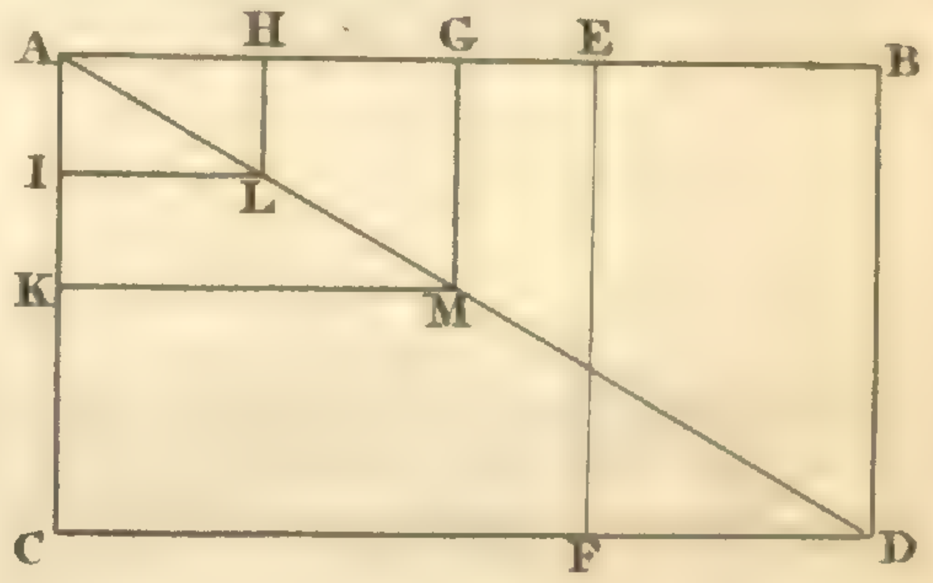


Fig. 96.

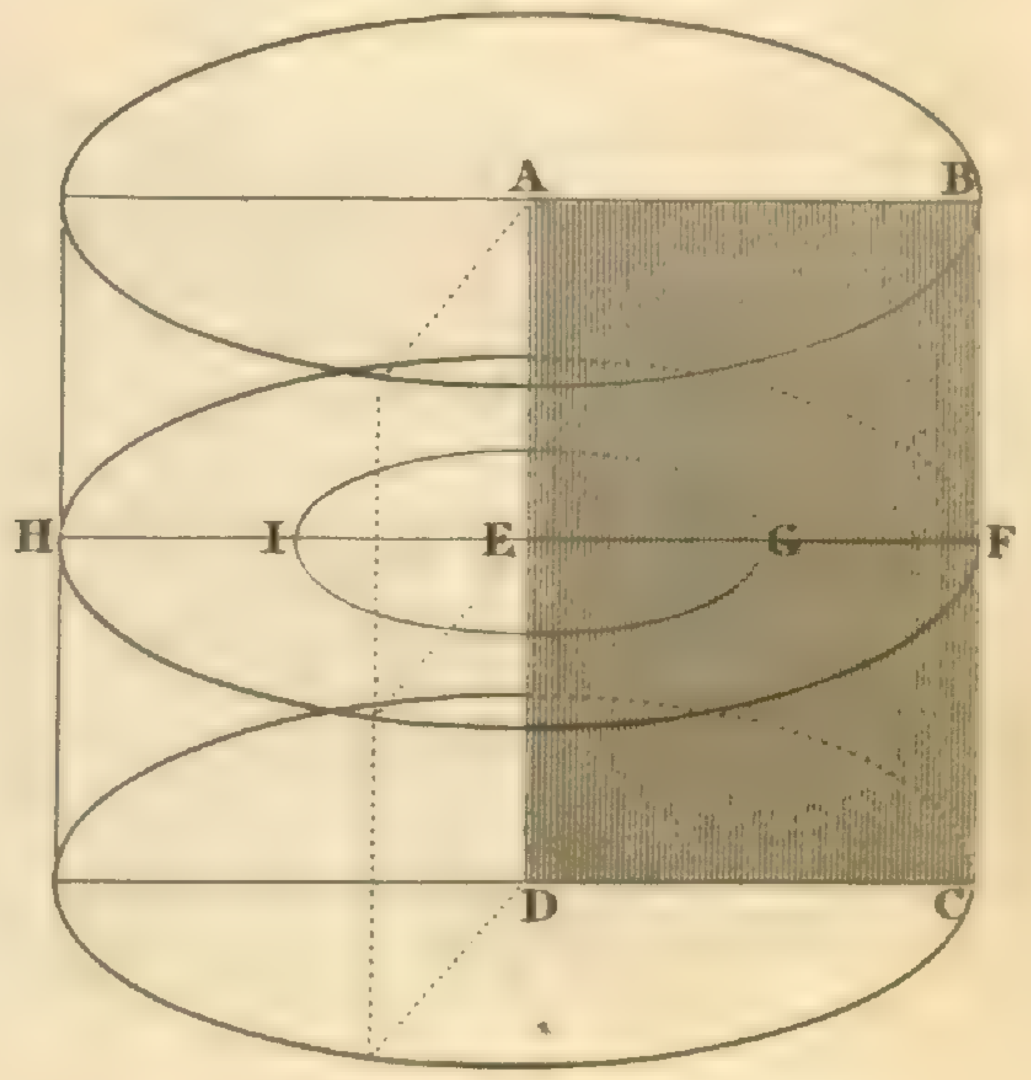


Fig. 95.

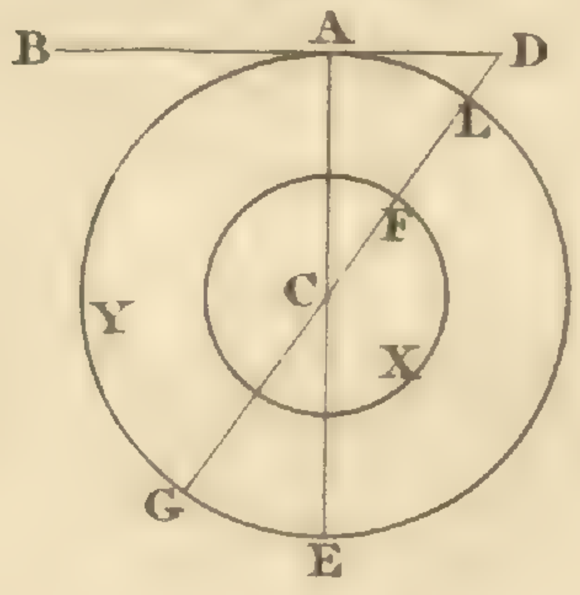


Fig. 97.

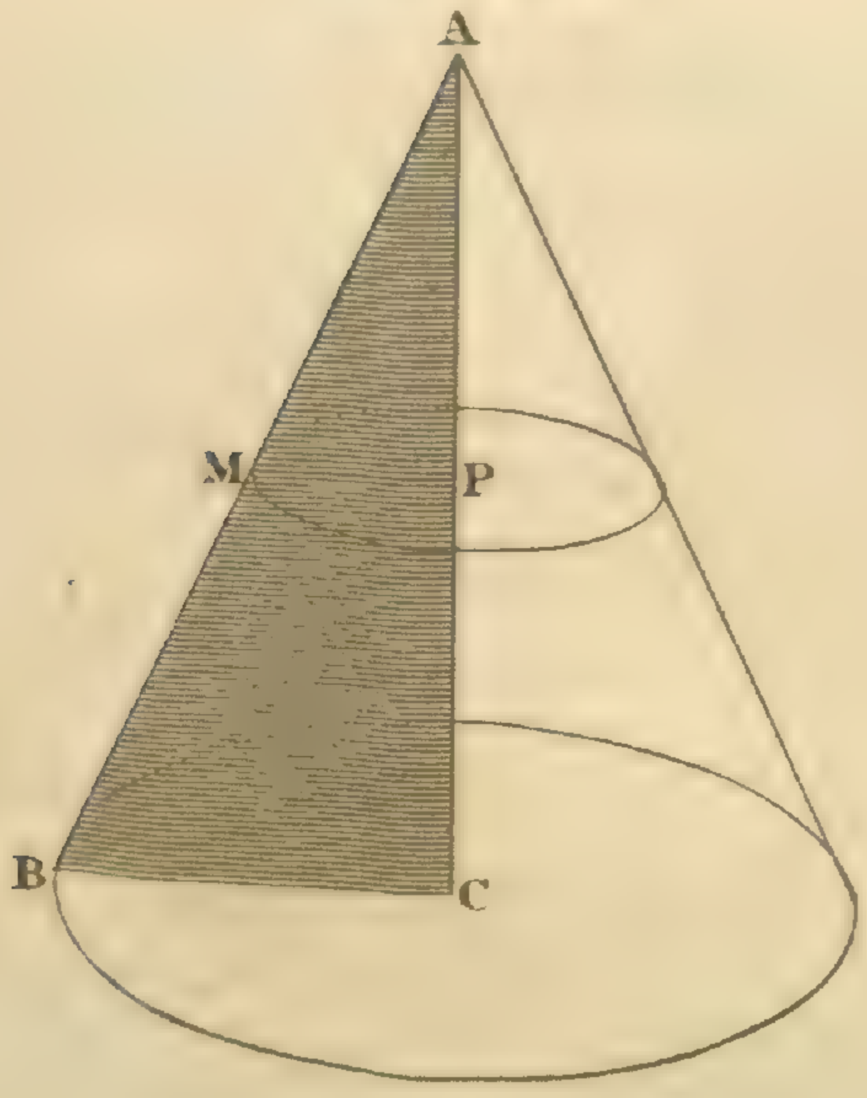
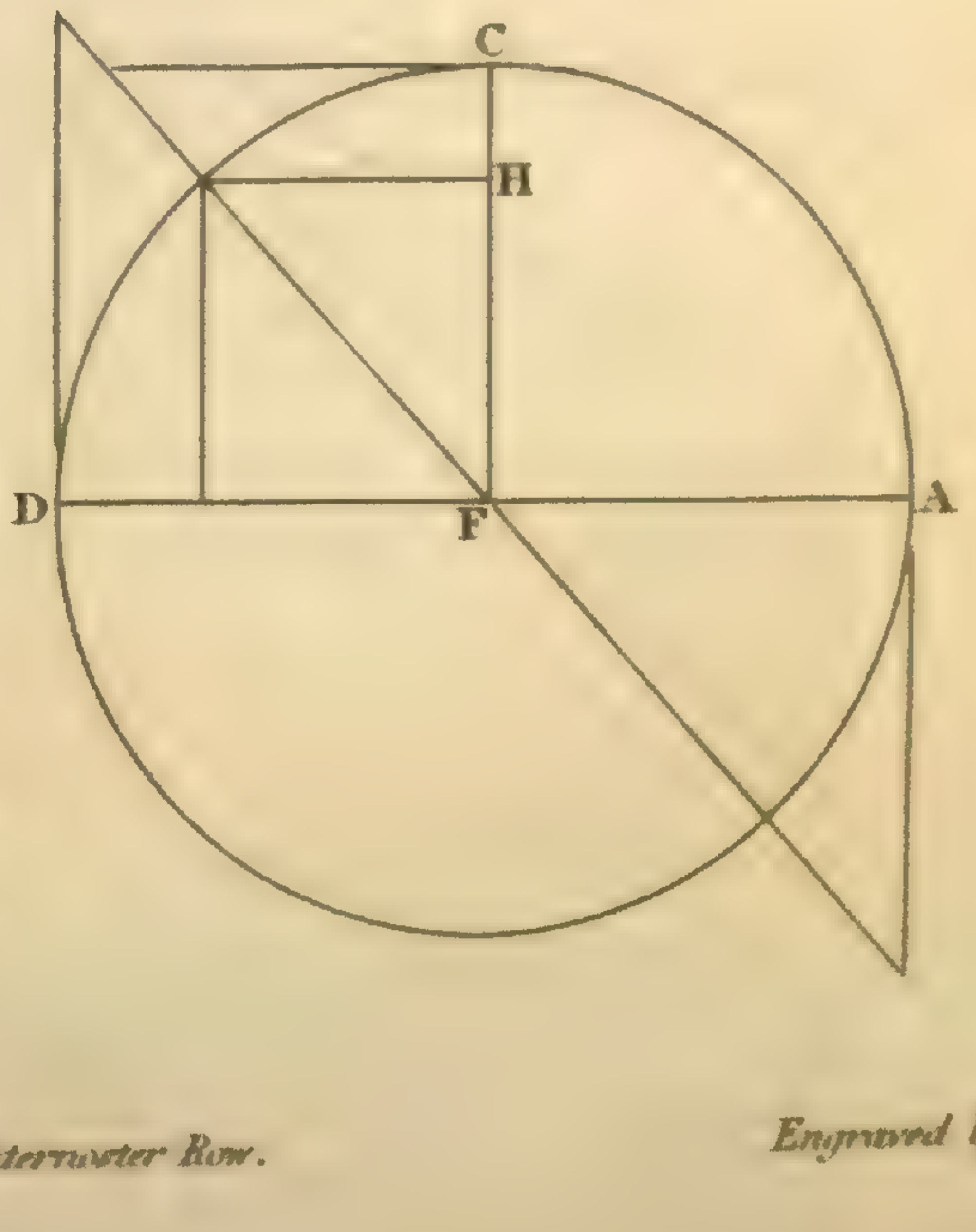


Fig. 98.

Fig. 99.



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MECHANICS.

CHAINS.

Fig. 1.

Fig. 2.

Fig. 3.

Fig 4.

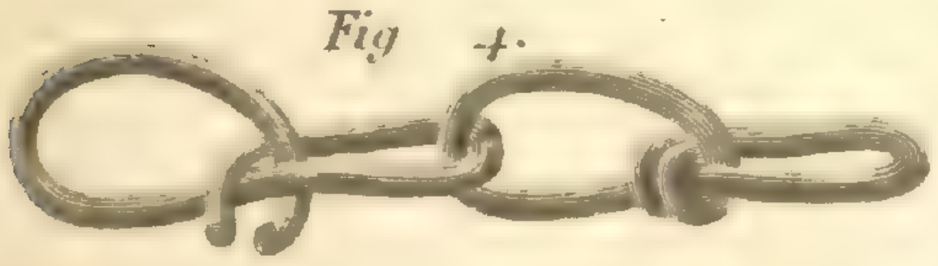


Fig. 5.

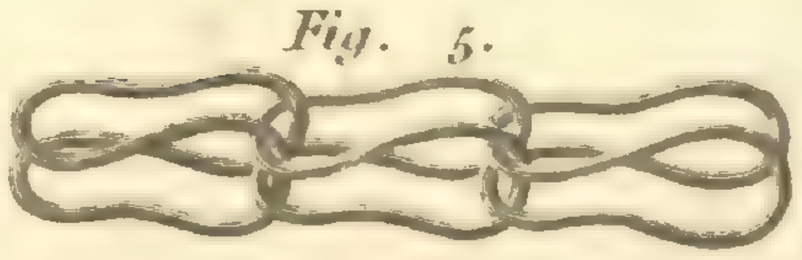


Fig. 6.

Fig. 7.

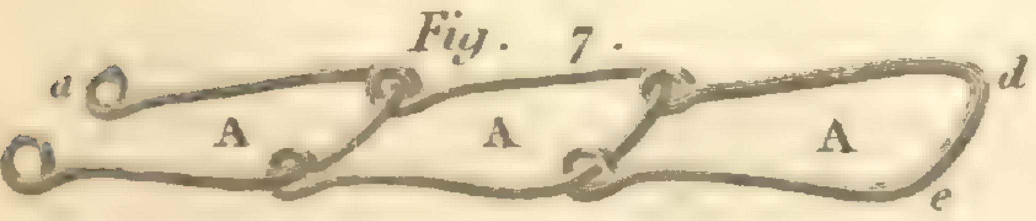


Fig. 8.

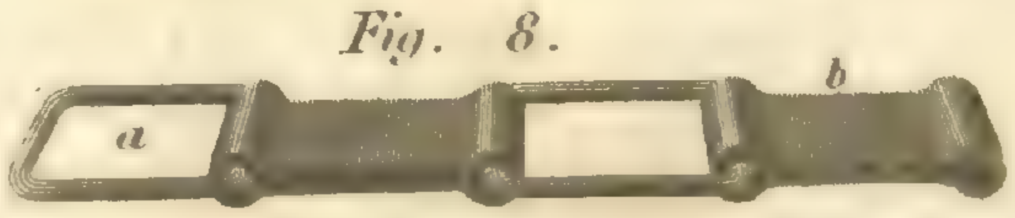


Fig. 9.

Fig. 10.

CLAY MILL.

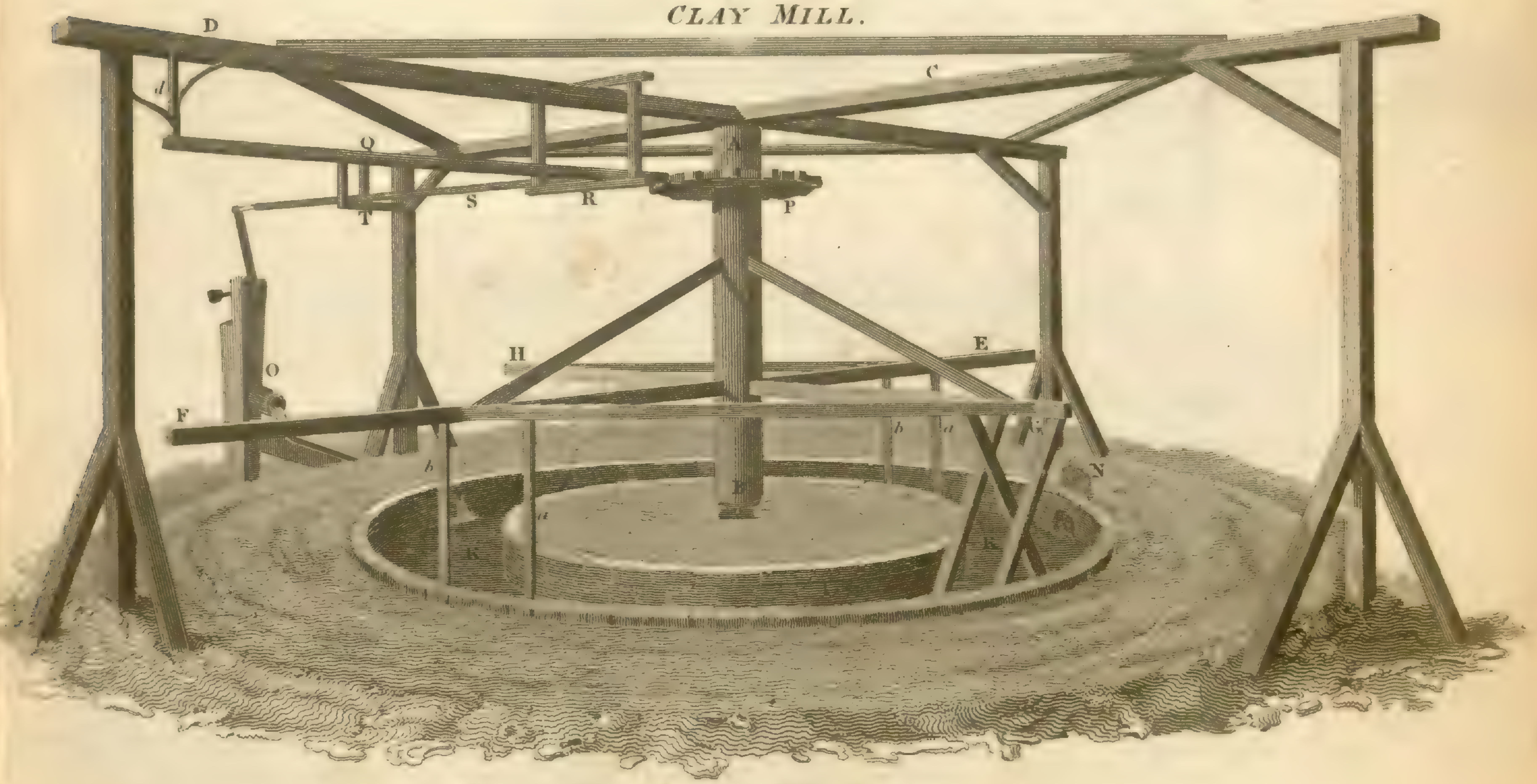
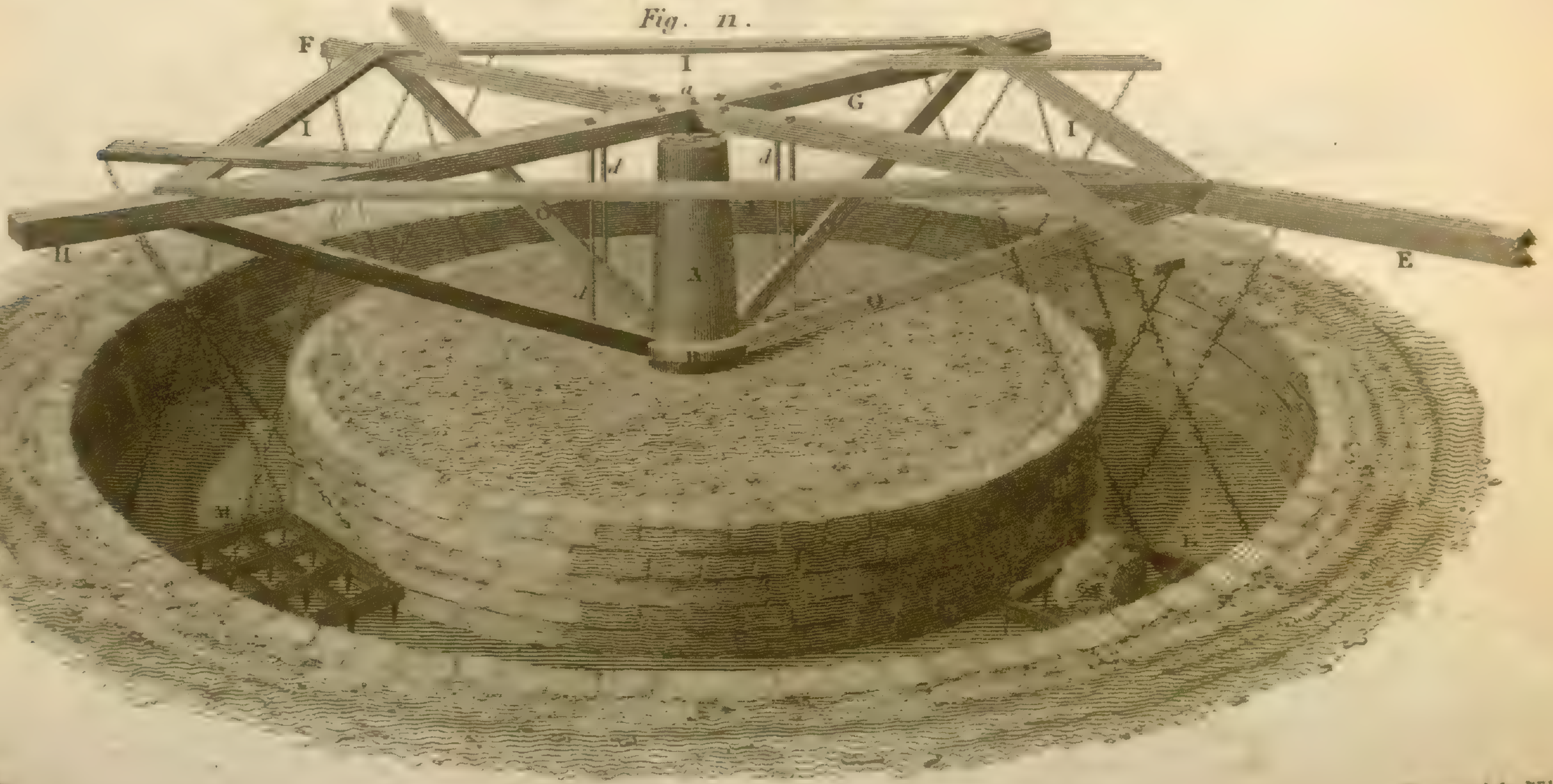


Fig. 11.



J. Farey Junr. delin.

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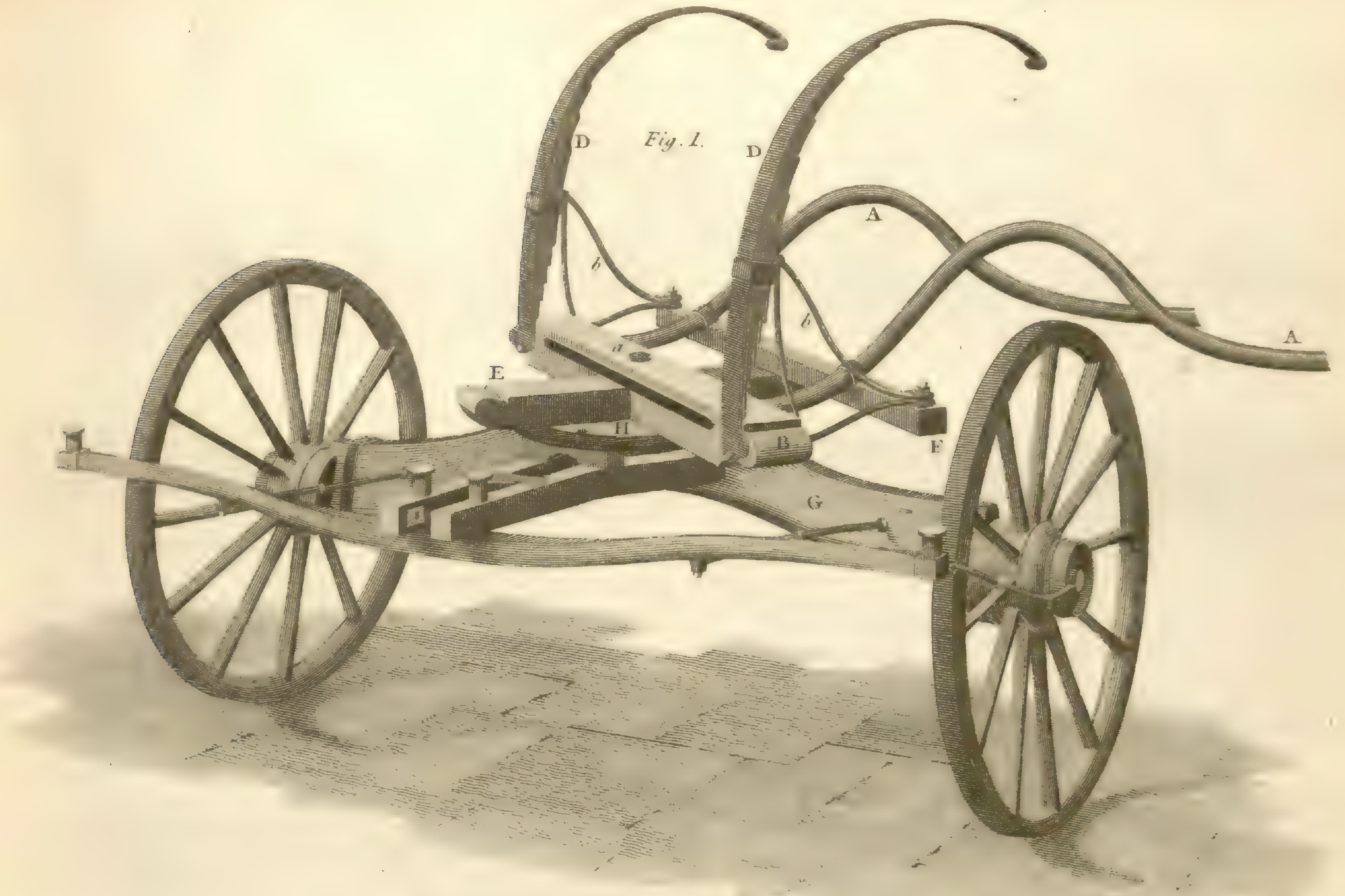
COACH.

View of the fore wheels of a Crane necked Carriage.



Mr. Jacobs, contrivance for the fore wheels of a Coach.

Harra Jun. delin.

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Lowry sc.

COAL MEASURING.

Fig. 1.

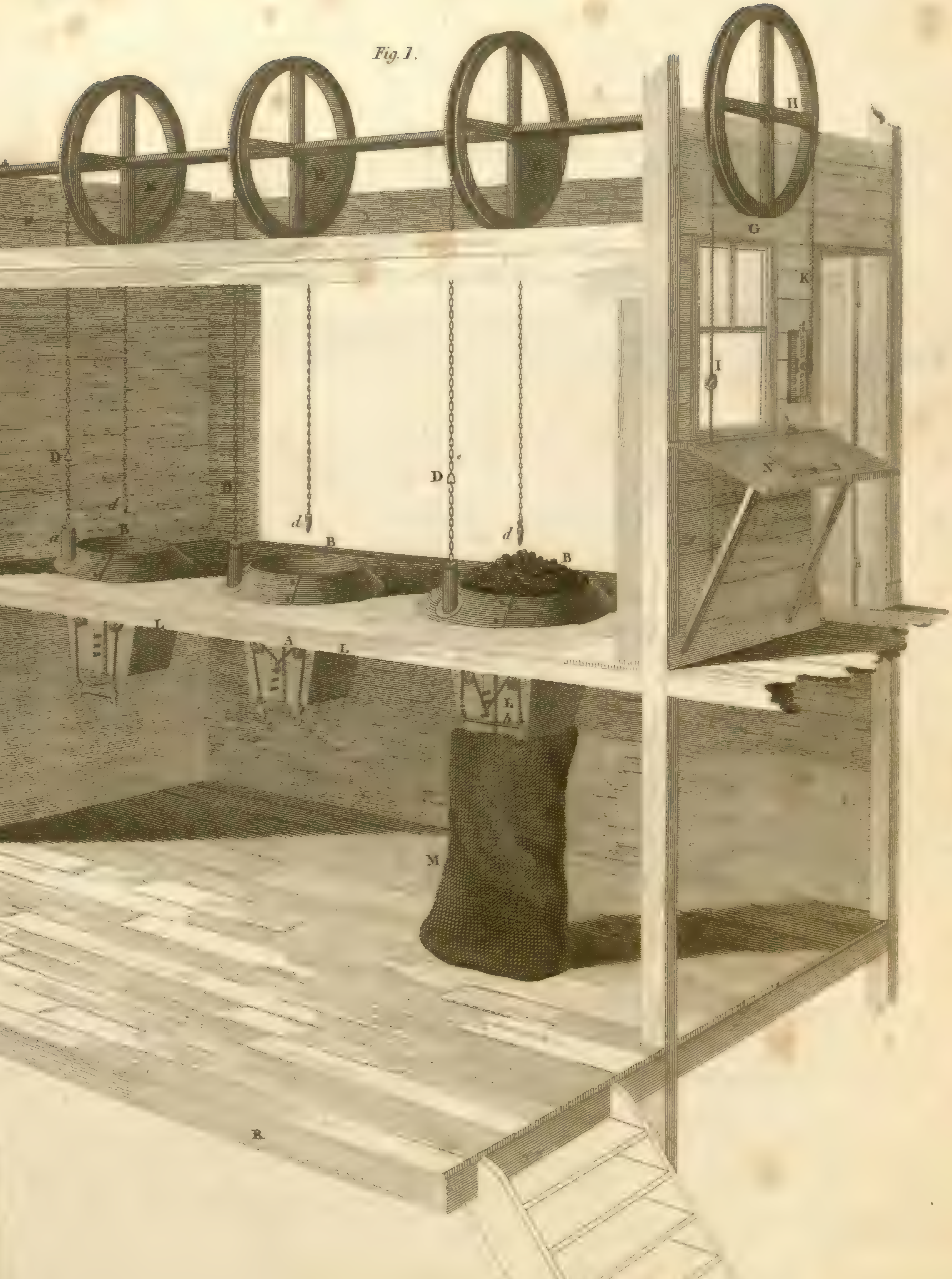
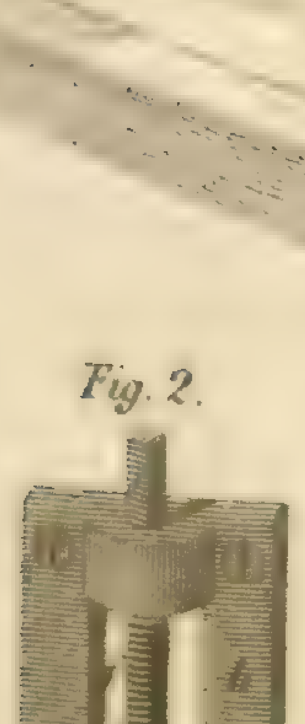


Fig. 2.



J. Farey Junr. delin.

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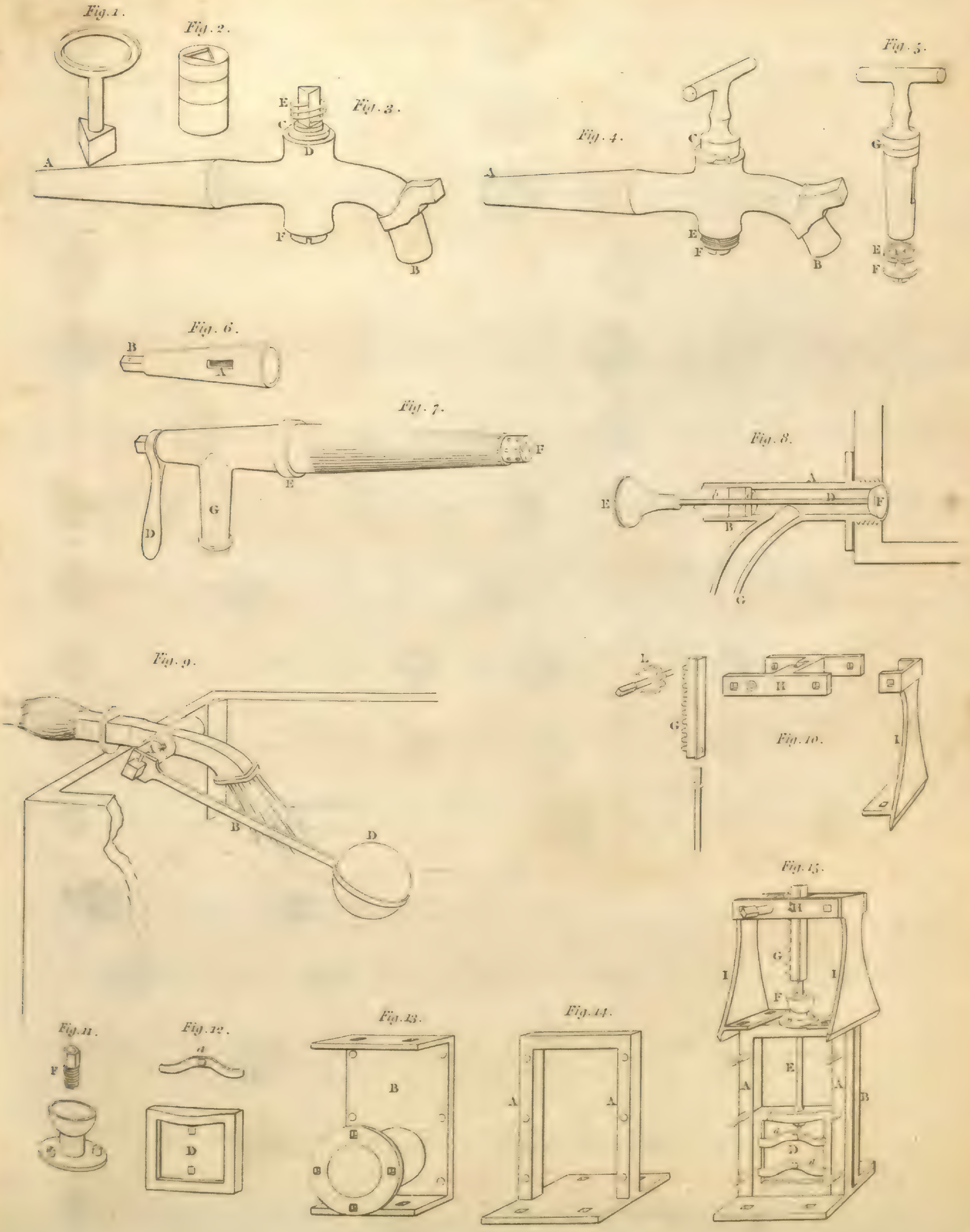
Engraved by Wilson Lowry.

MECHANICS.

WATER COCKS.



S. Porcy Jun. delin

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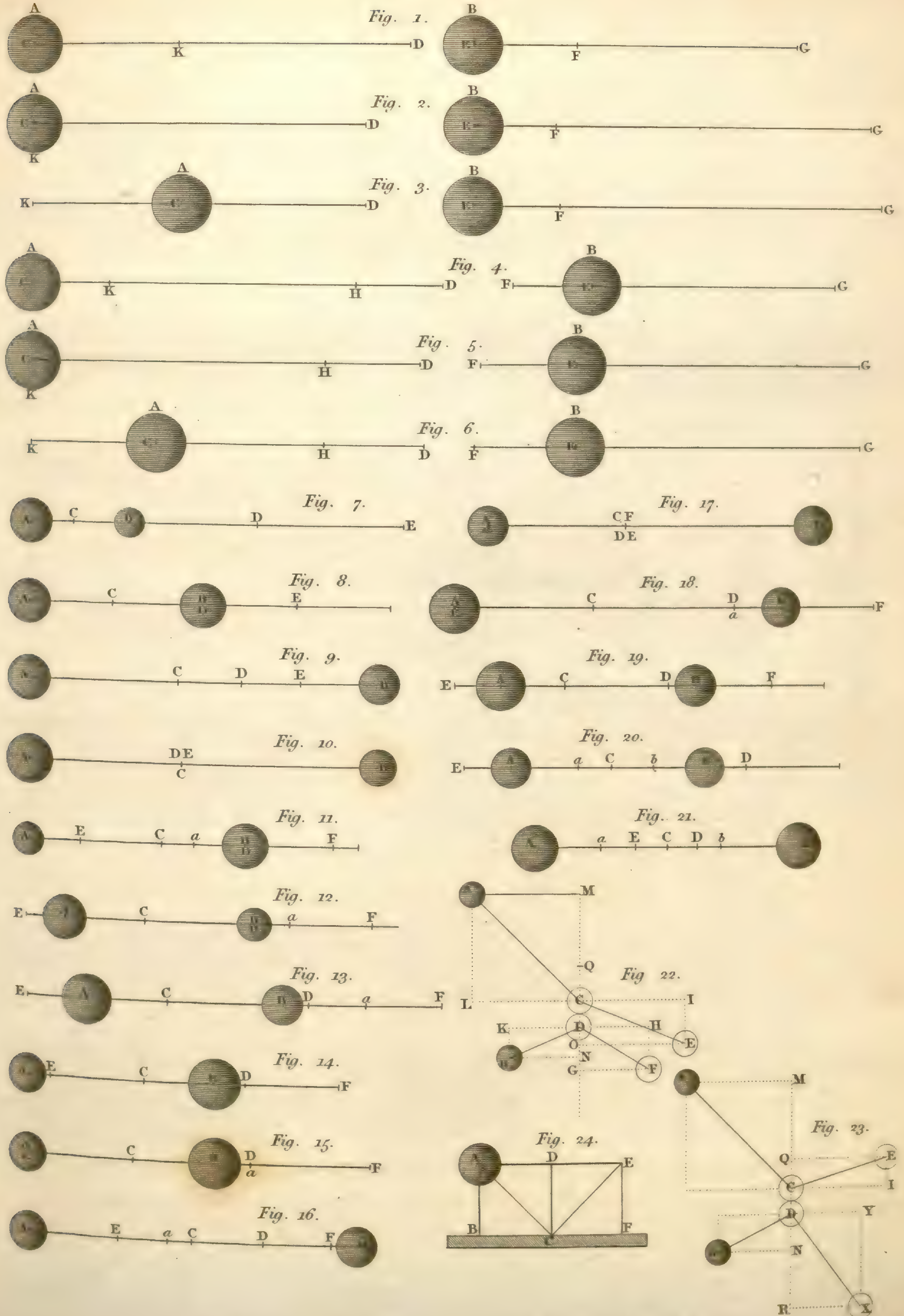
MECHANICS.

COLLISION.



Published as the Act directs, Dec.r 1807, by Longman, Hurst, Rees & Orme, Paternoster Row.

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COMB MAKING.

Fig. 1.

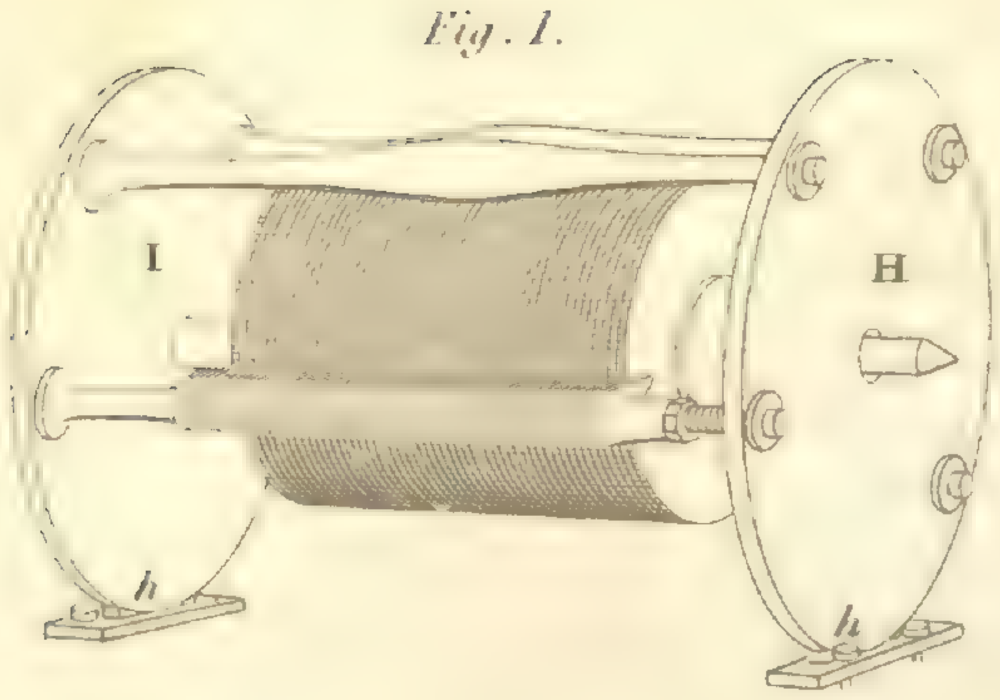


Fig. 2.

Fig. 3.

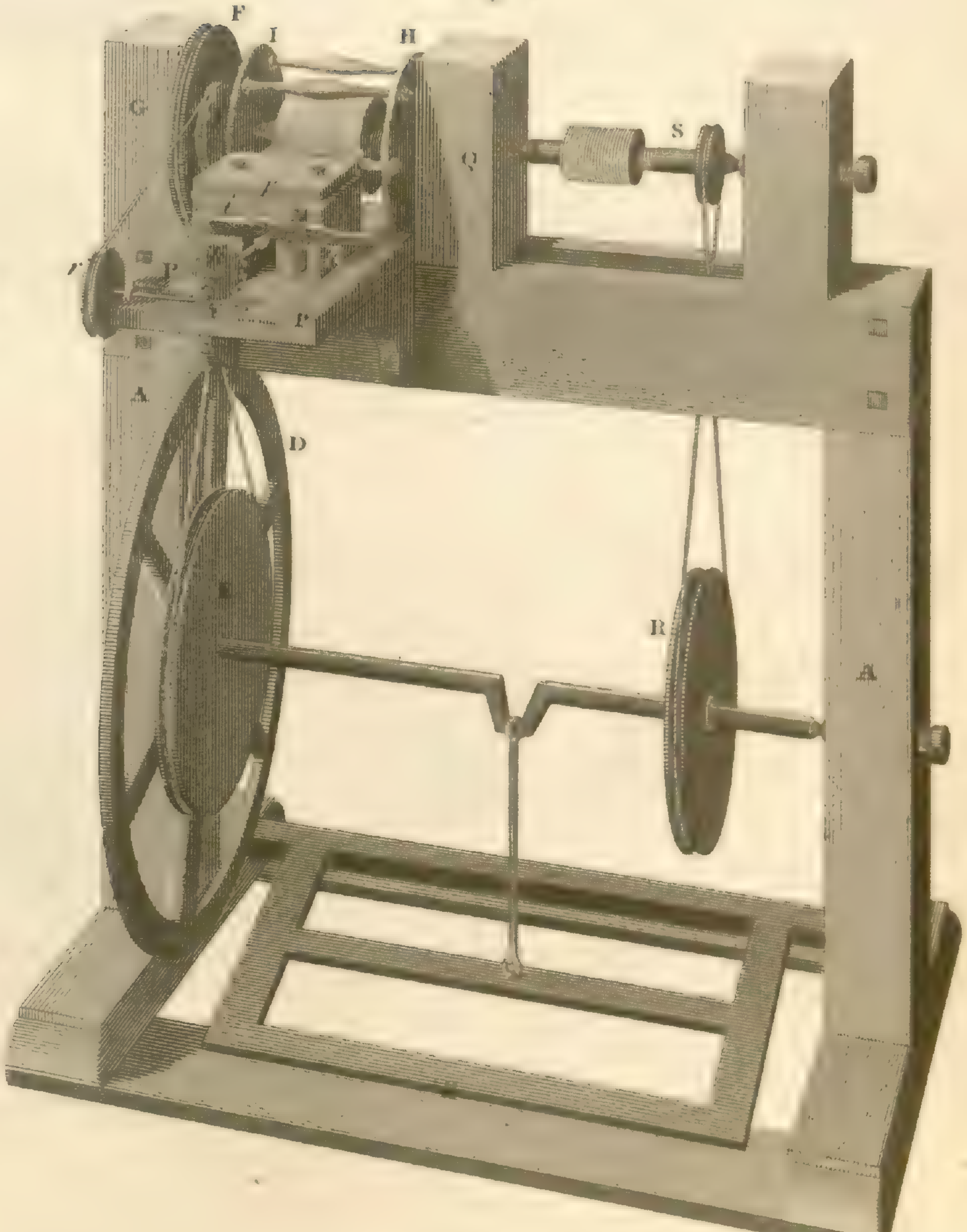


Fig. 4.

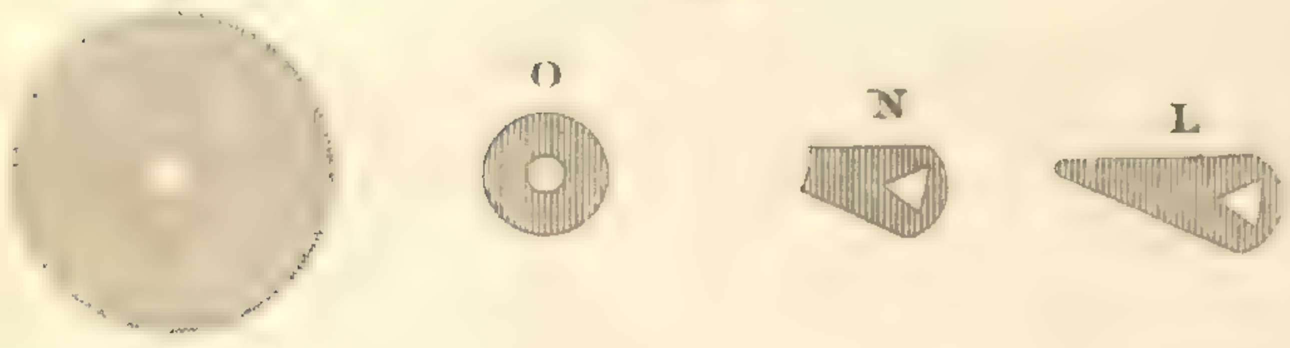


Fig. 5.

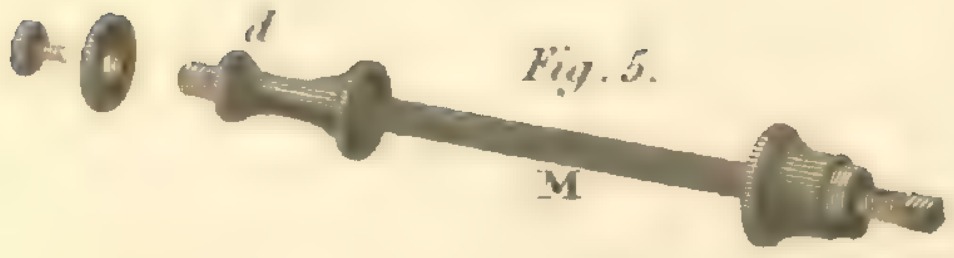


Fig. 6.

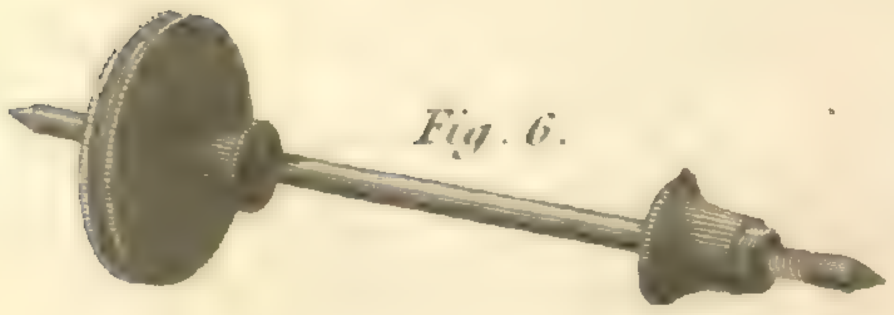


Fig. 7.

Coupling box.

Fig. 6.

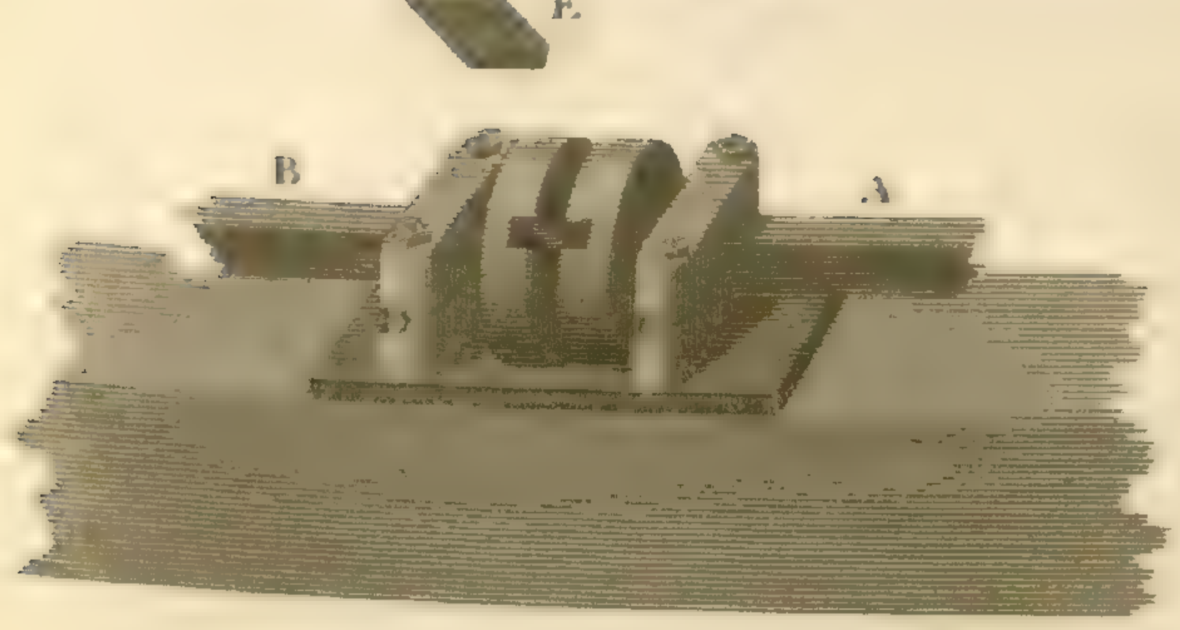


Fig. 7.

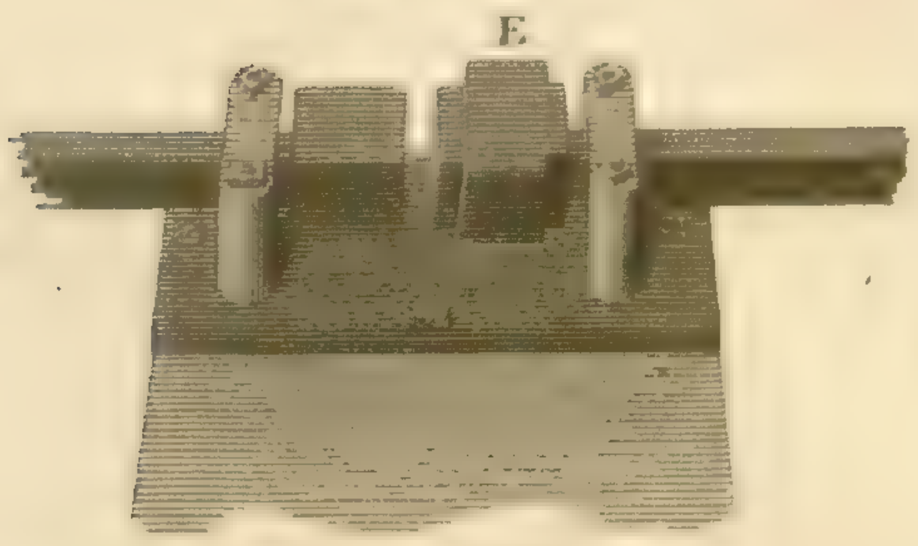
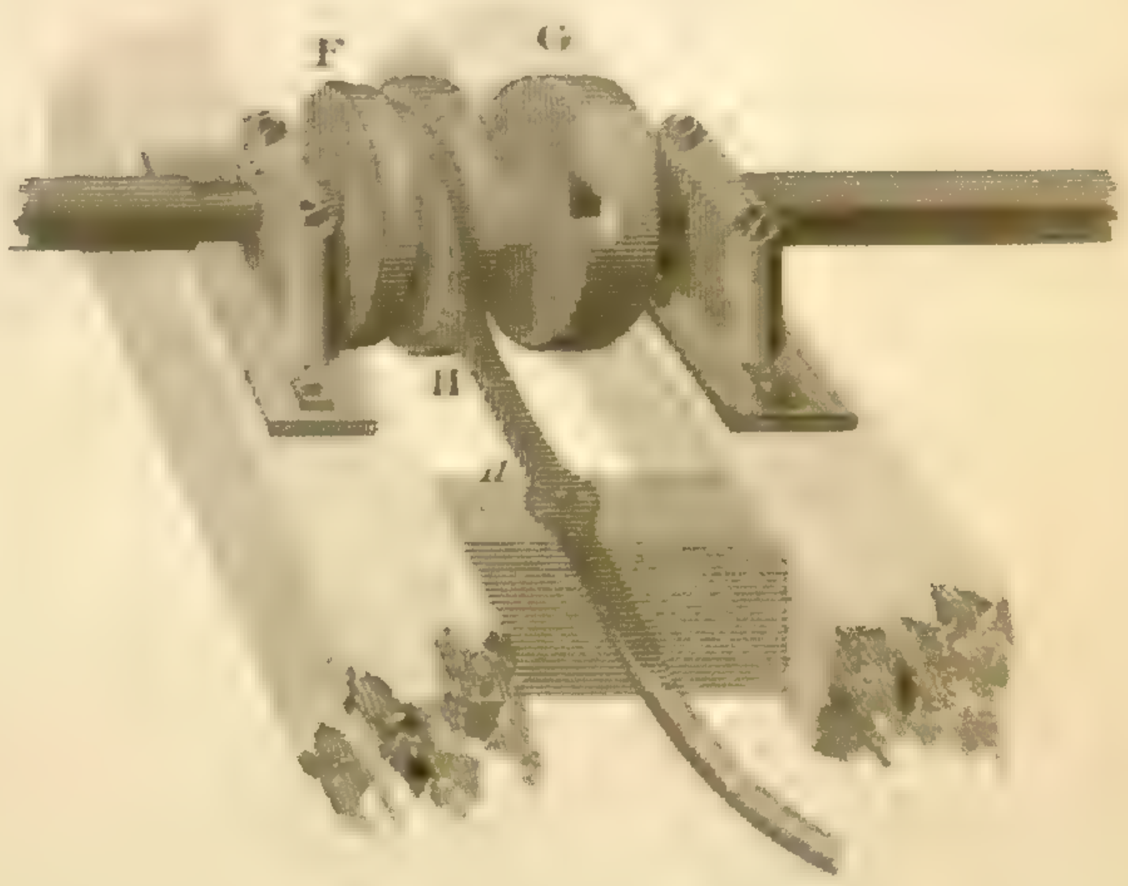


Fig. 8.



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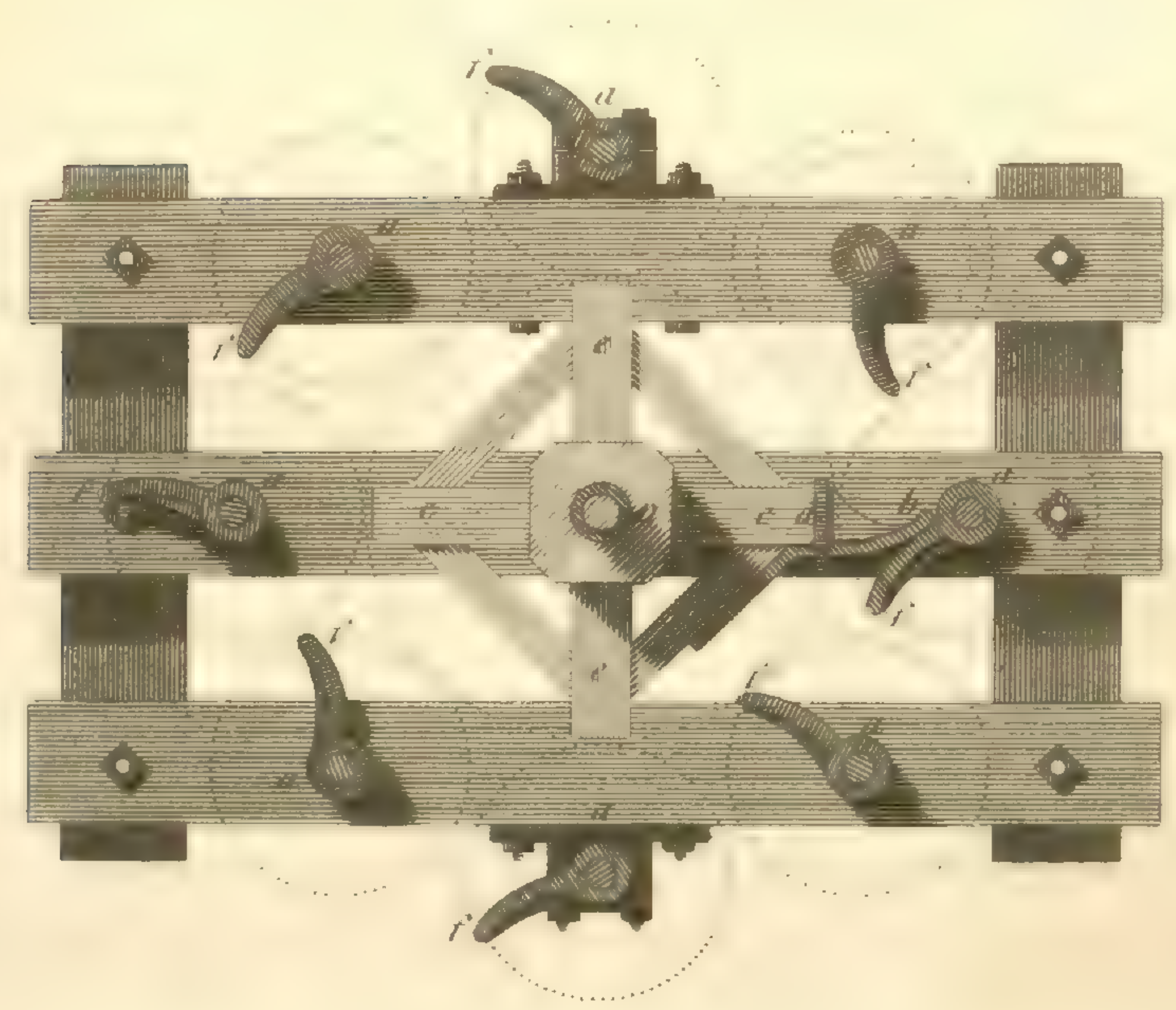
Proney's Condenser of Forces.

Fig. 10.



Composition of Motion.

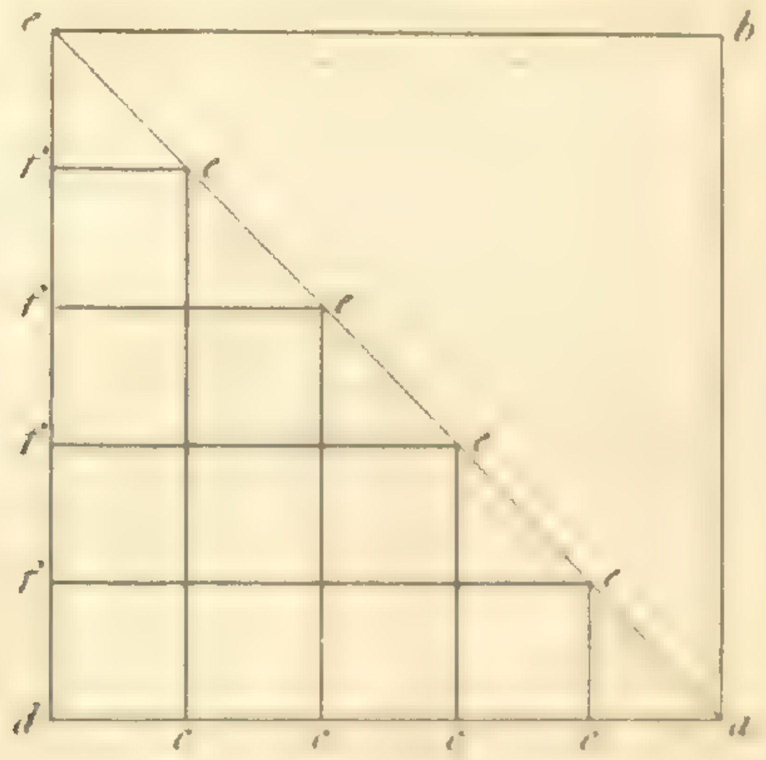


Fig. 1.

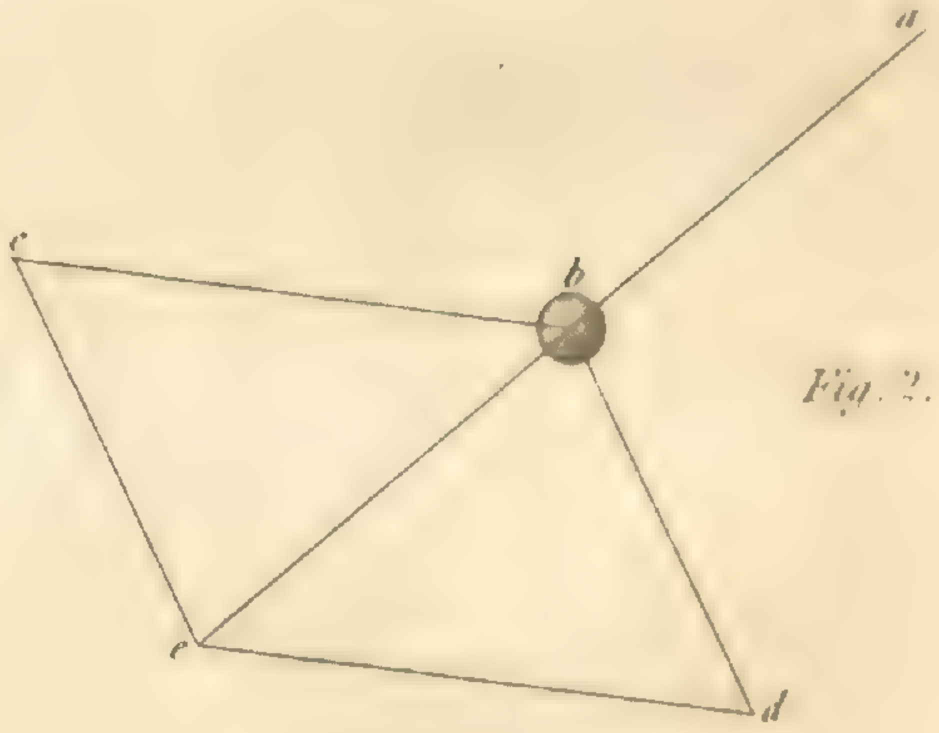
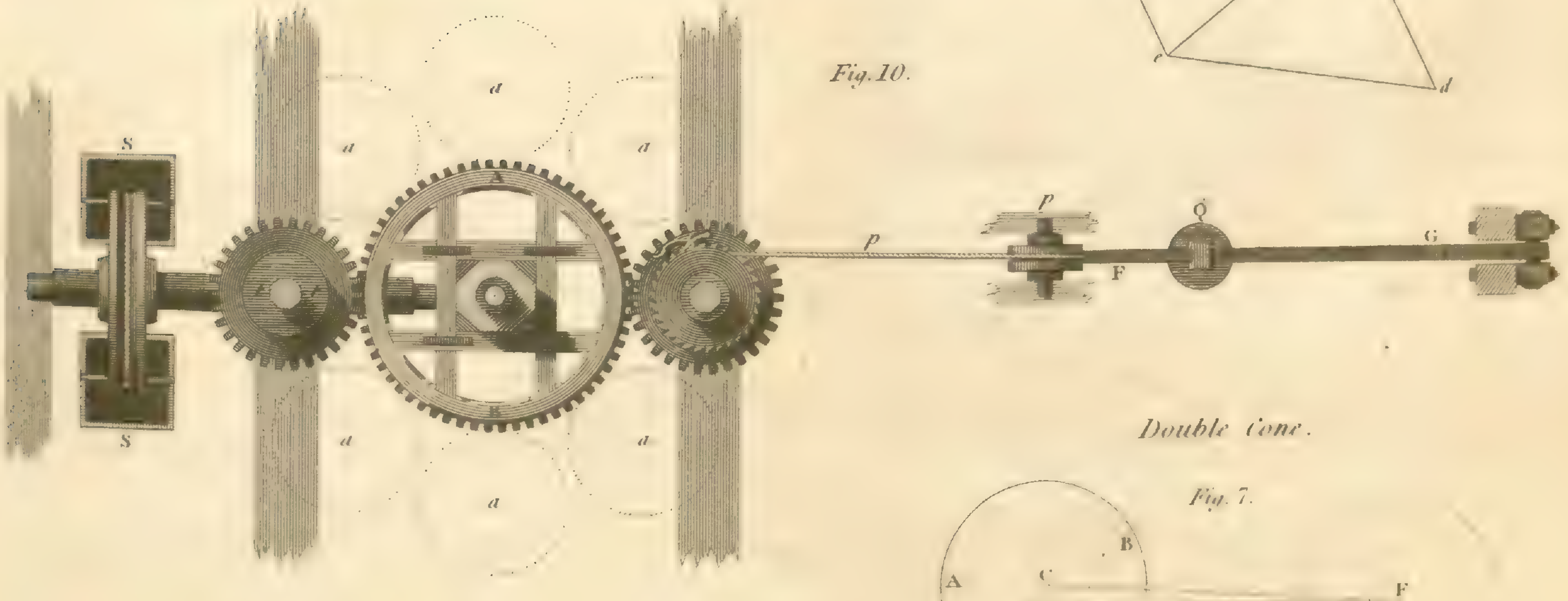


Fig. 2.

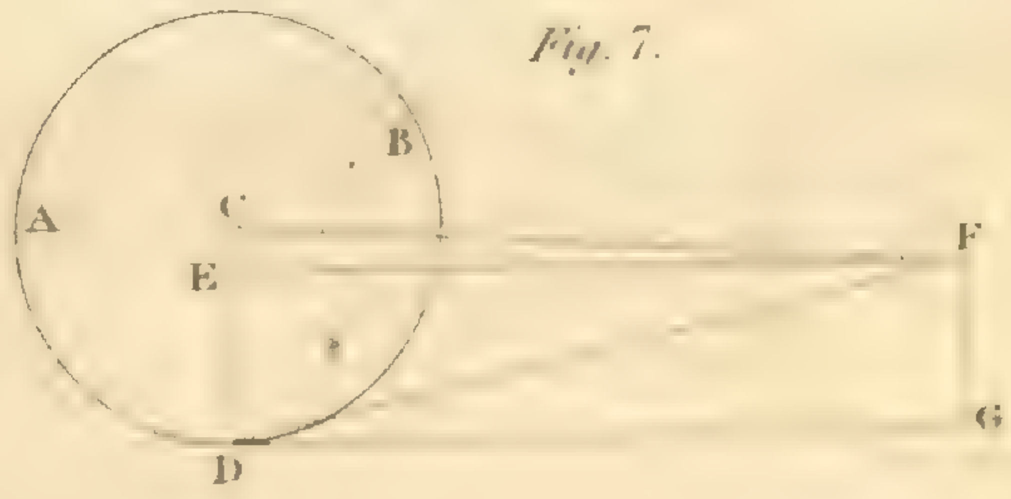
Plans.

Fig. 10.



Double Cone.

Fig. 7.



Elevation.

Fig. 11.

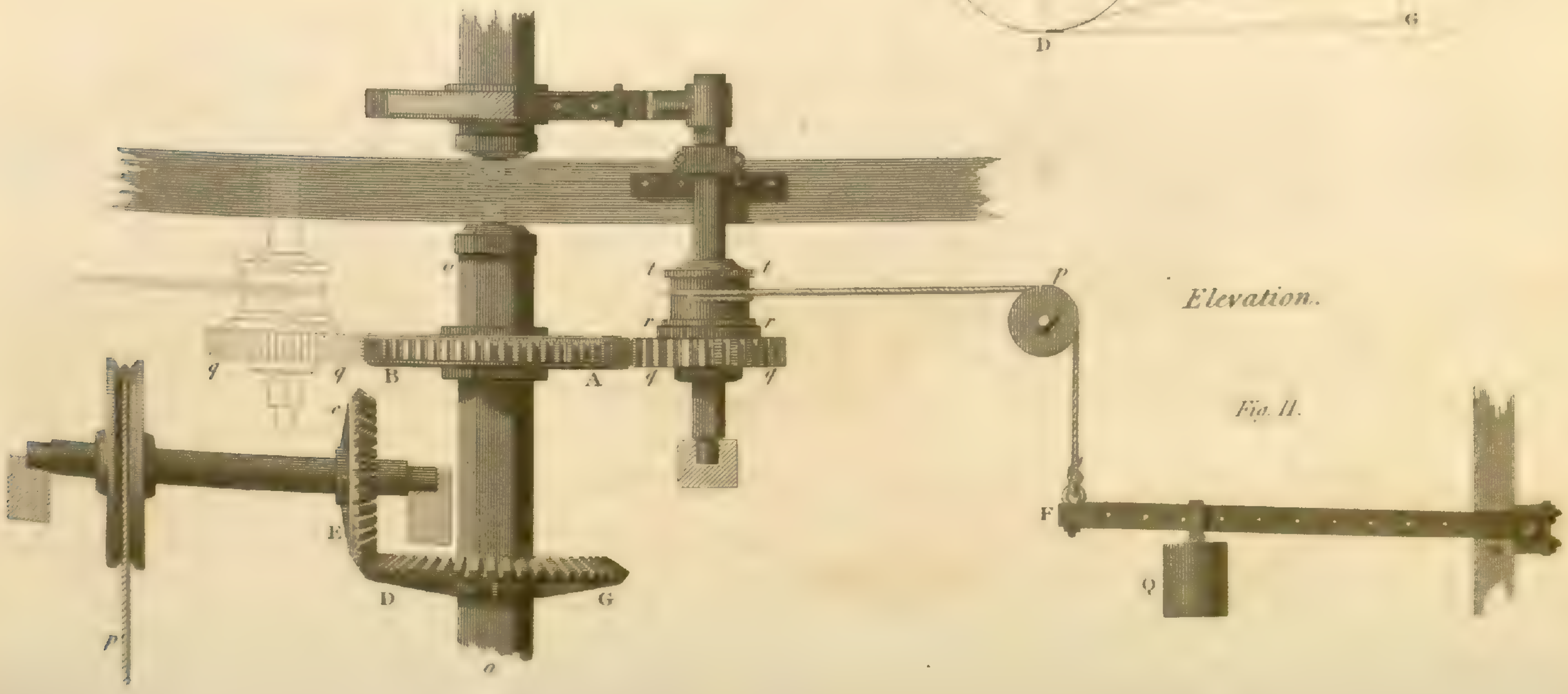


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Fig. 3.

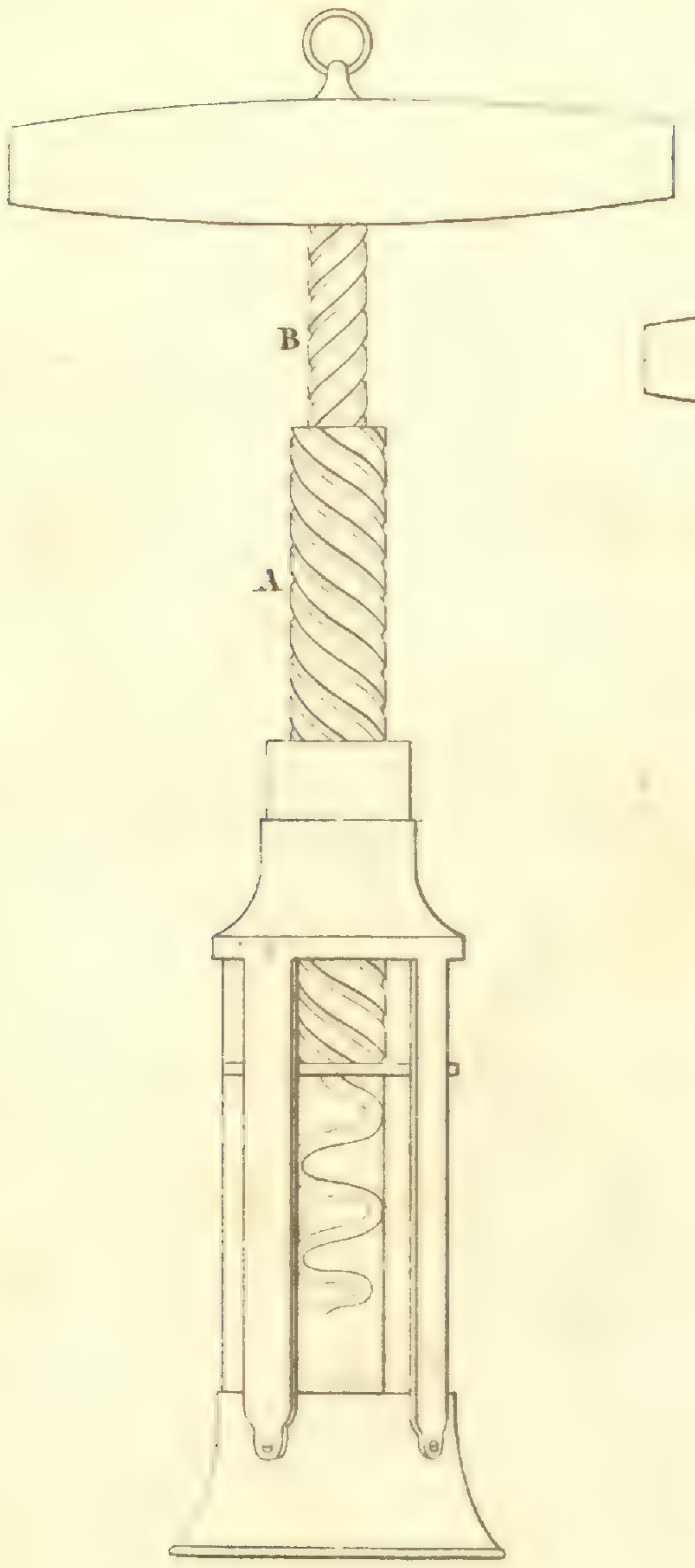


Fig. 1.

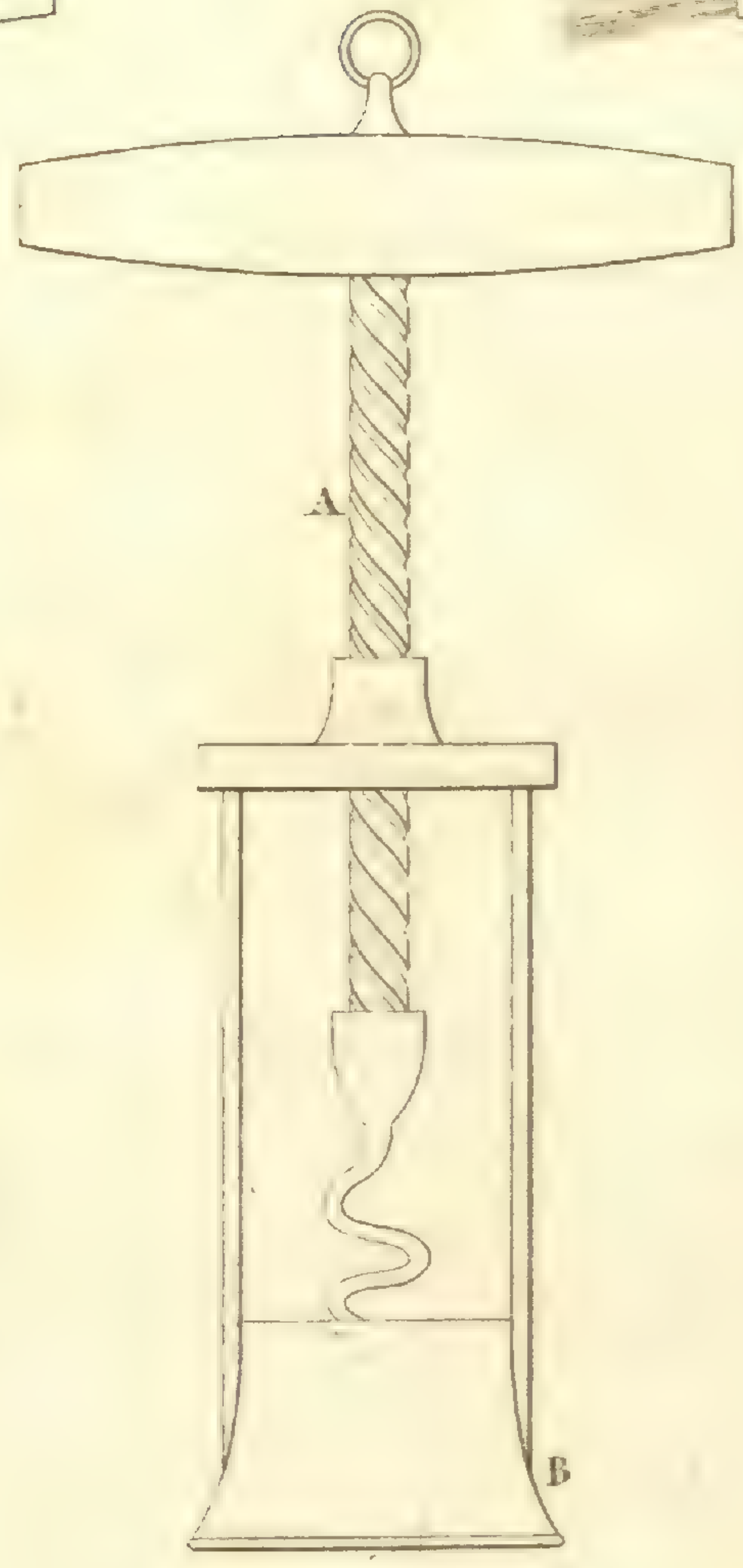


Fig. 4.

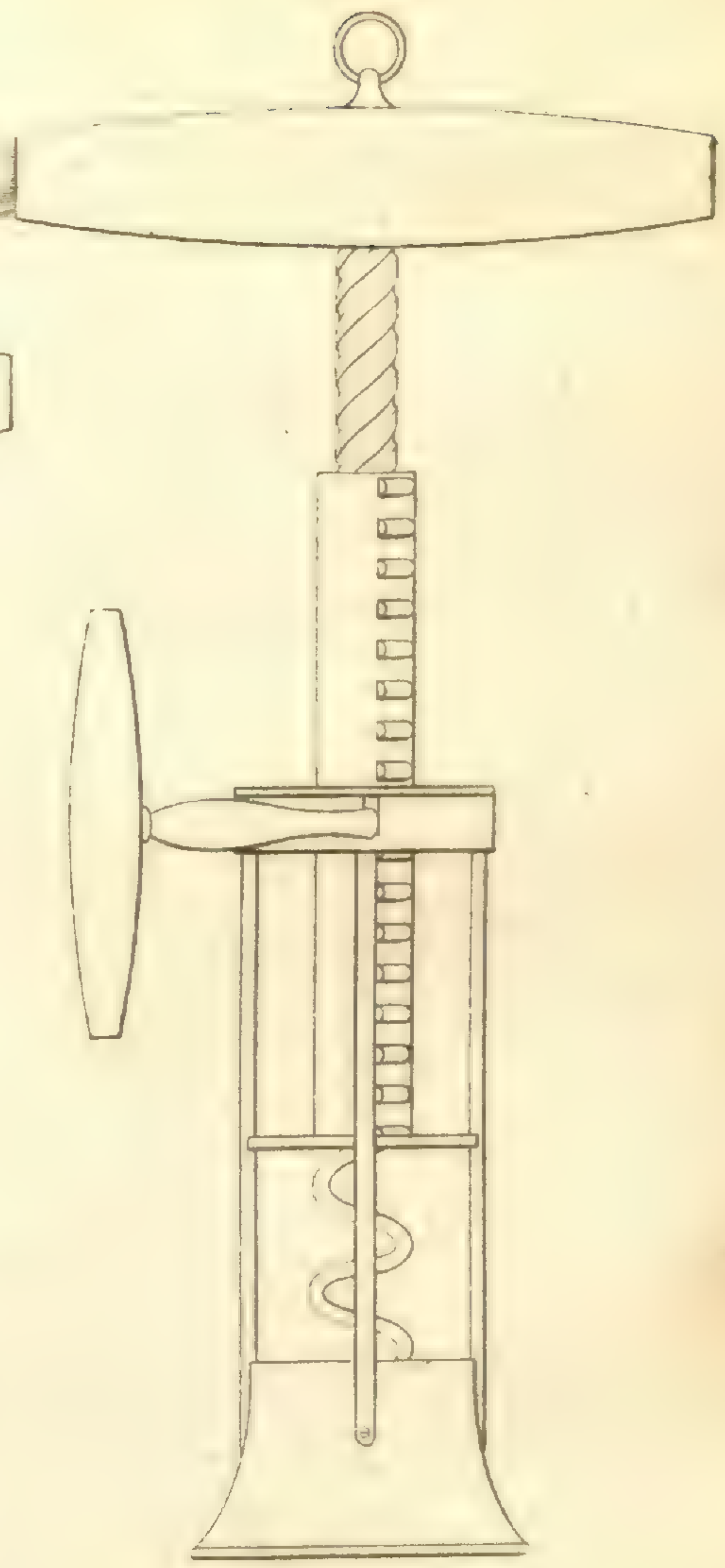
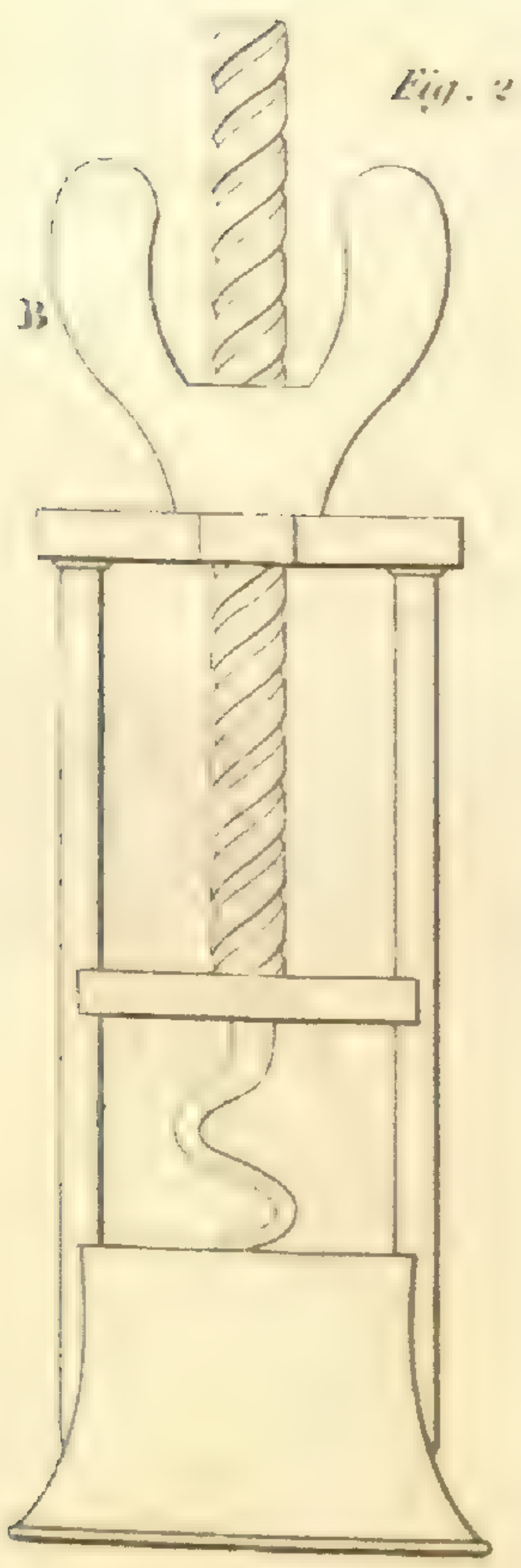


Fig. 2.



Corking Machine.

Fig. 5.

Junr delin

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MECHANICS.

CRANES.

by Mr. Ferguson.

Fig. 2

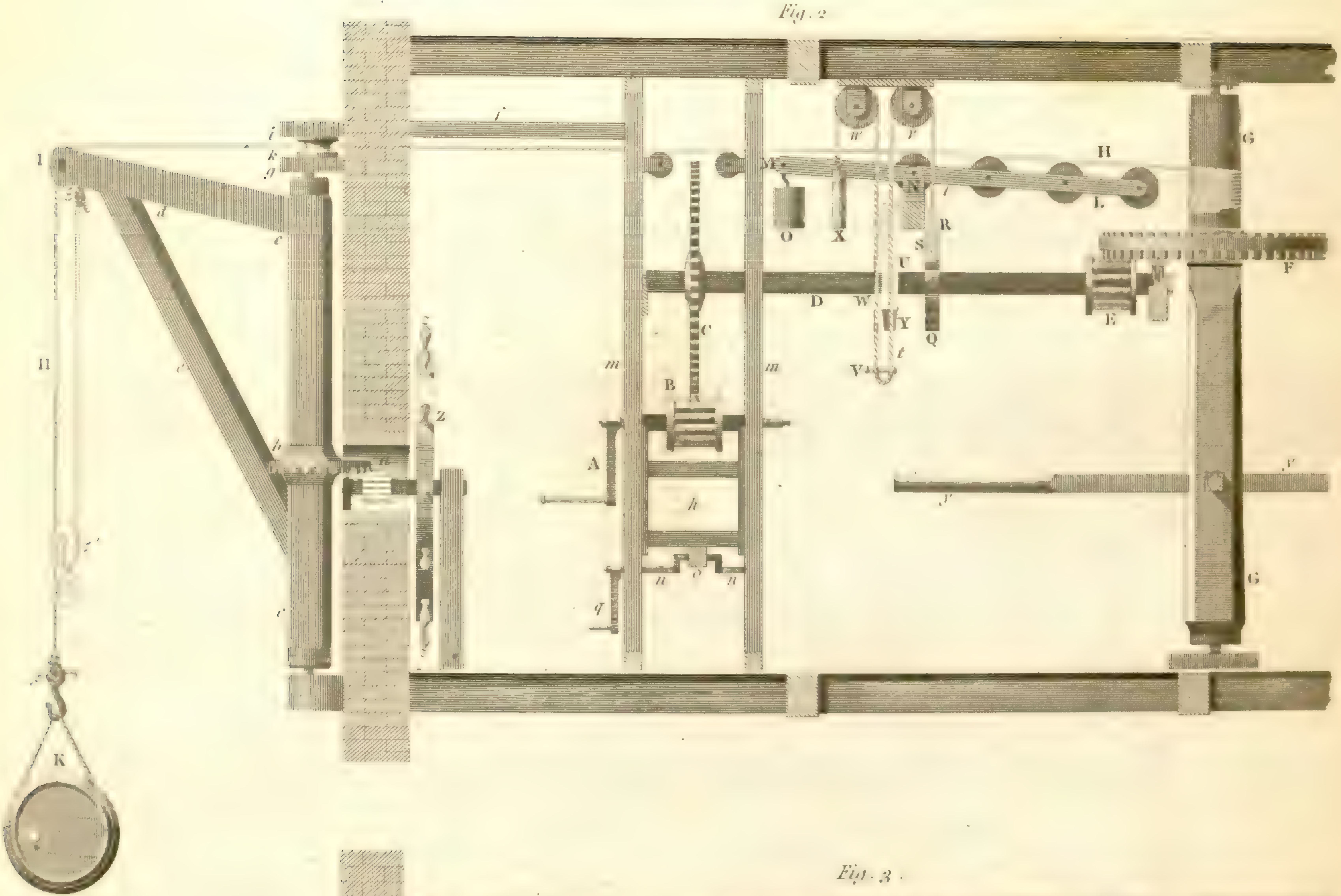
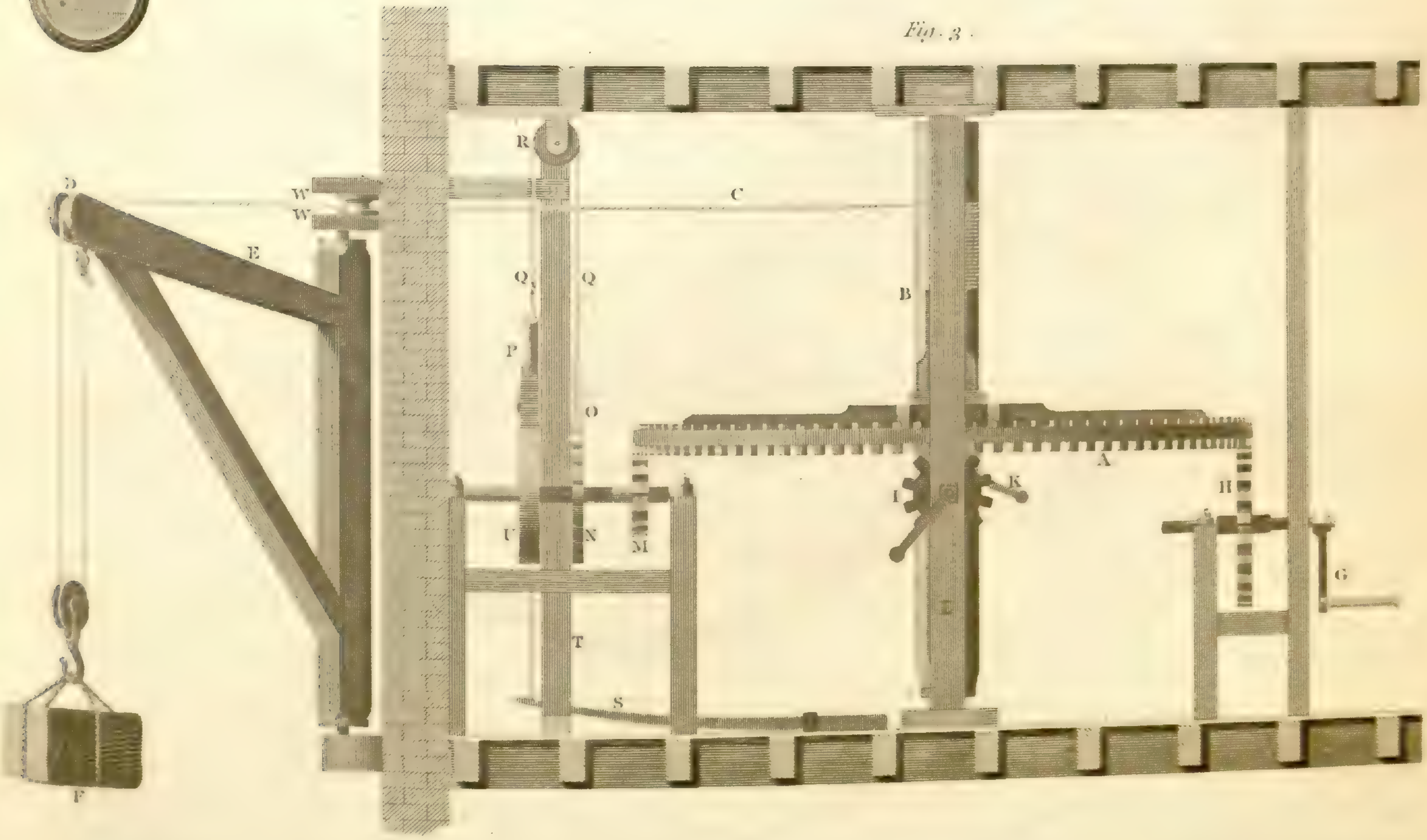


Fig. 3.



Farey Junr. delin.

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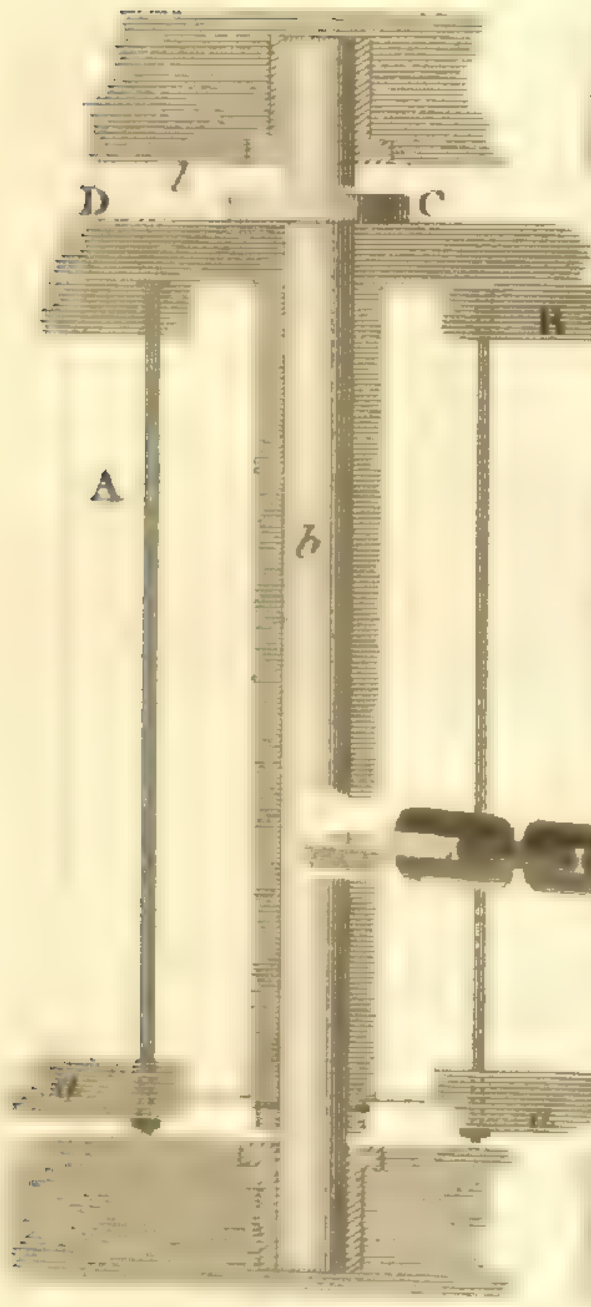
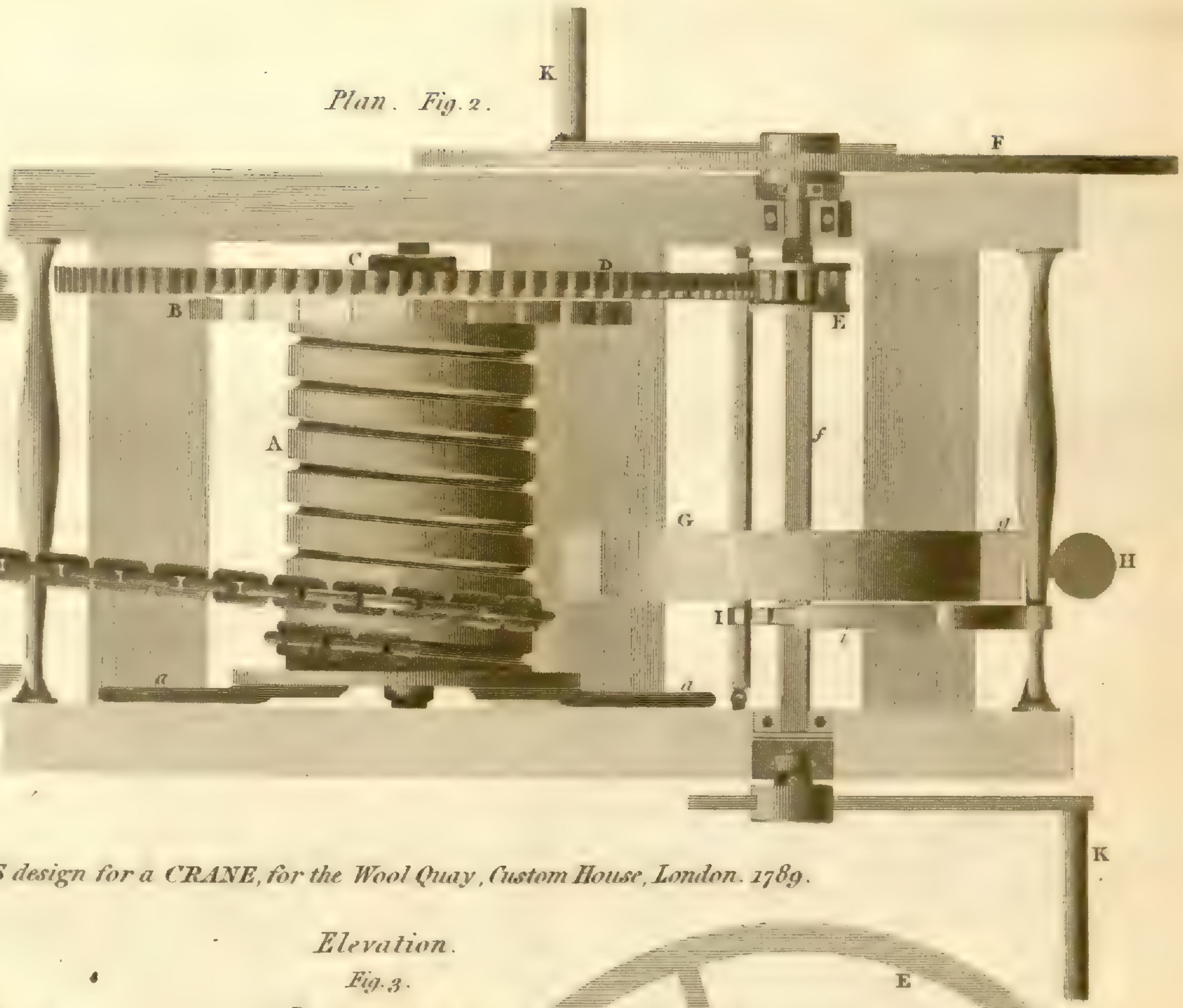
CRANES.

Fig. 1.



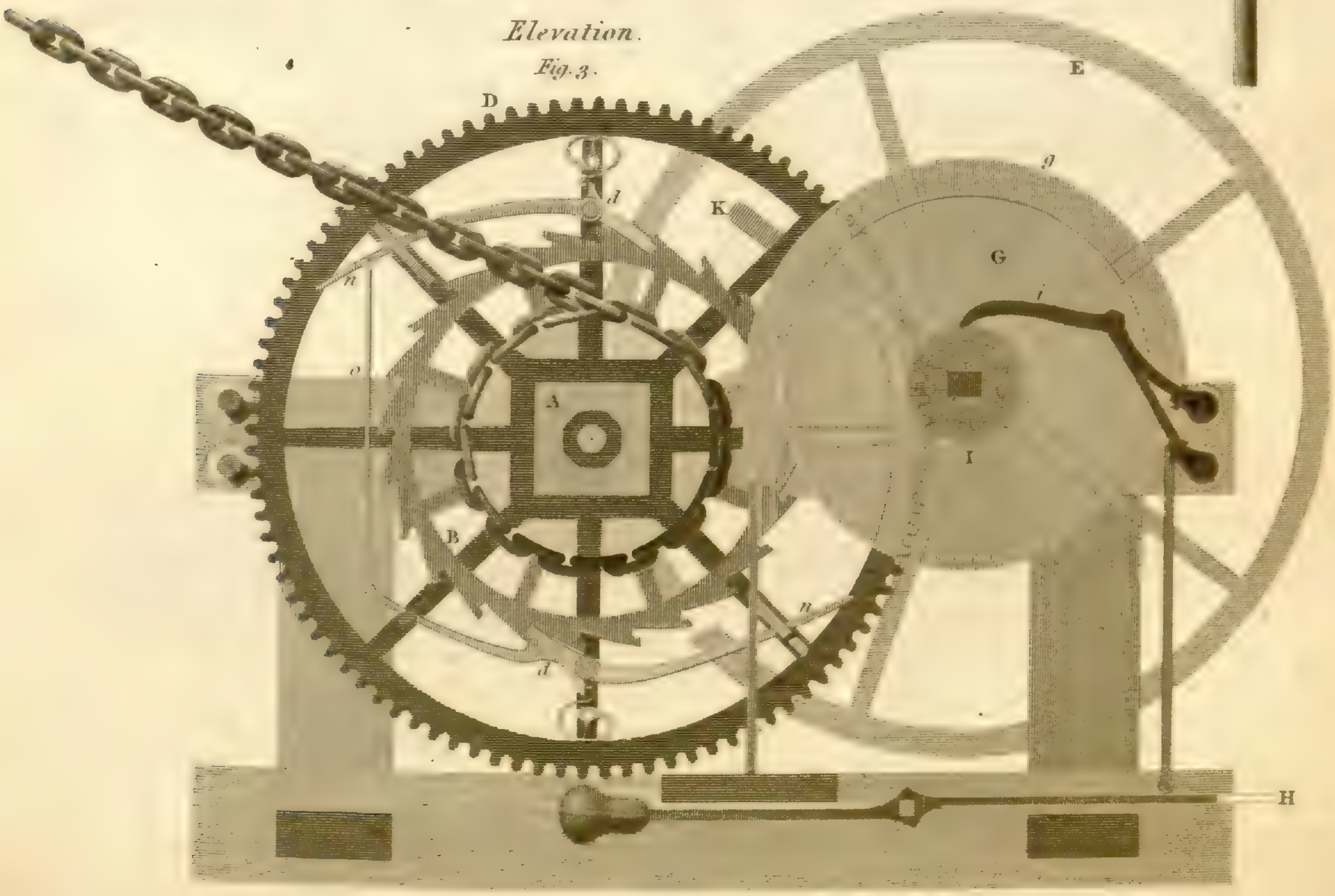
Plan. Fig. 2.



M^r. SMEATON'S design for a CRANE, for the Wool Quay, Custom House, London. 1789.

Elevation.

Fig. 3.



Scale of Inches.

10 20 30 40 50 60 70 80 90

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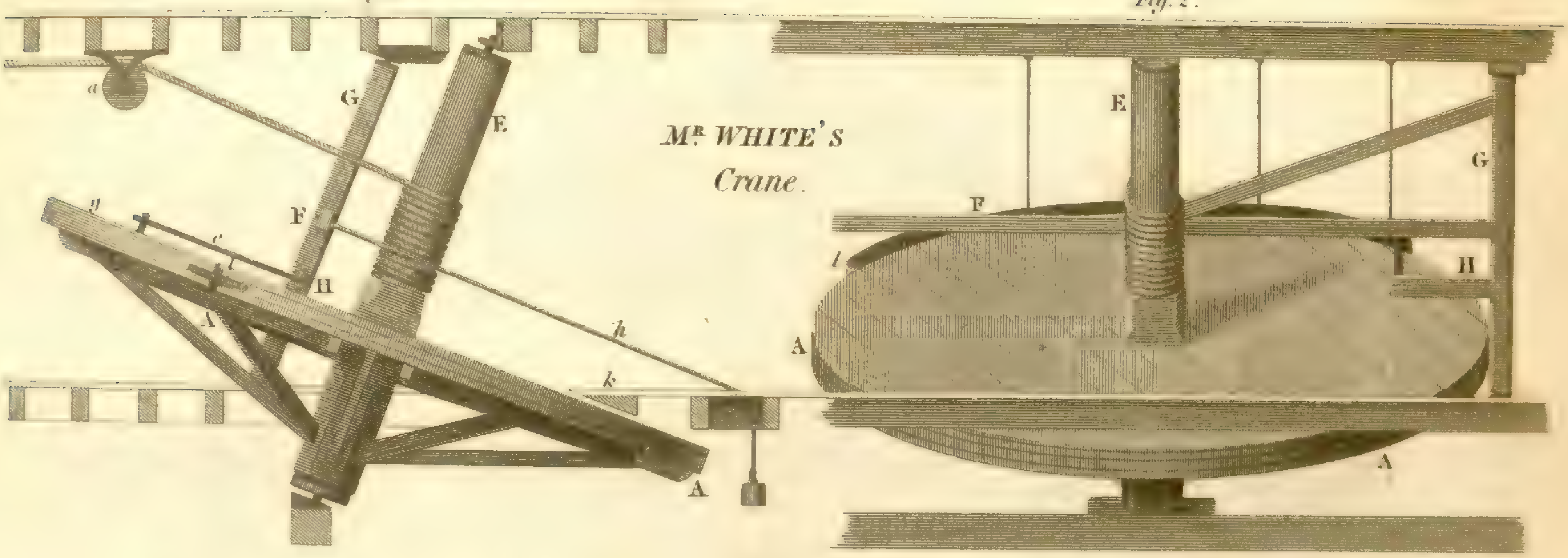
CRANES.

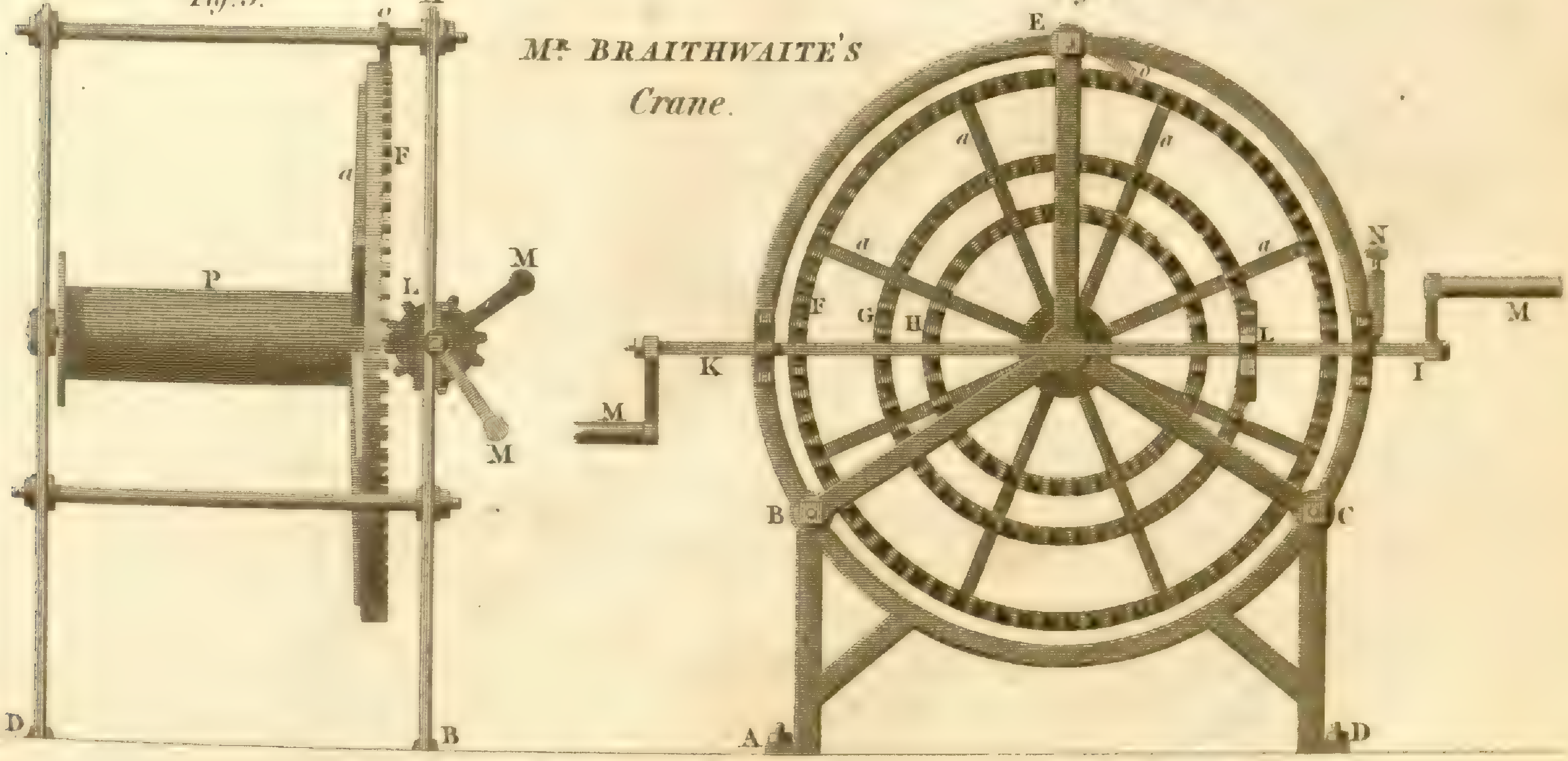
Mr. WHITE'S Crane.

Fig. 1. Fig. 2.



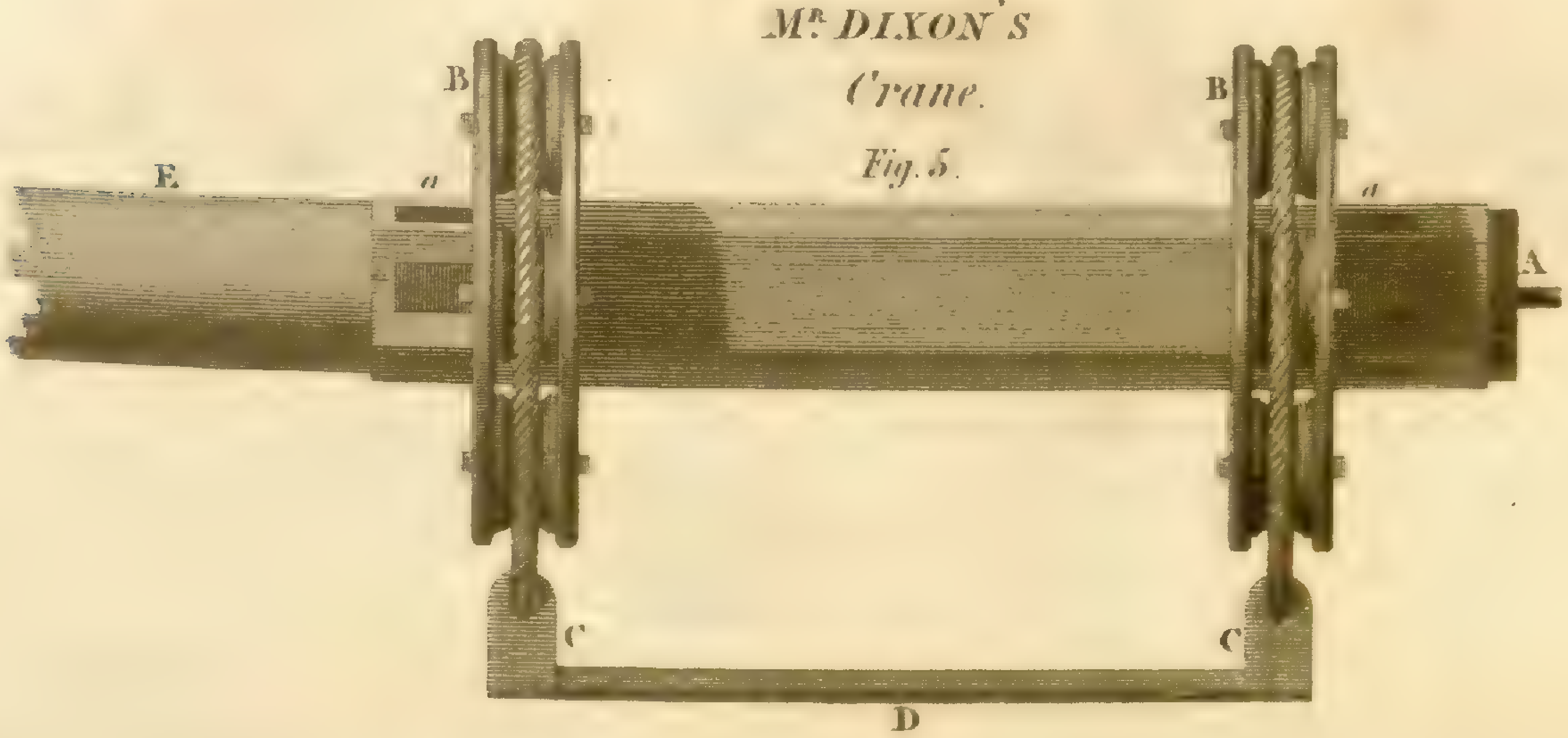
Mr. BRAITHWAITE'S Crane.

Fig. 3. Fig. 4.



Mr. DIXON'S Crane.

Fig. 5.



J. Farey Jun.r delin.

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CRANES.

Fig. 1.

Fig. 2.

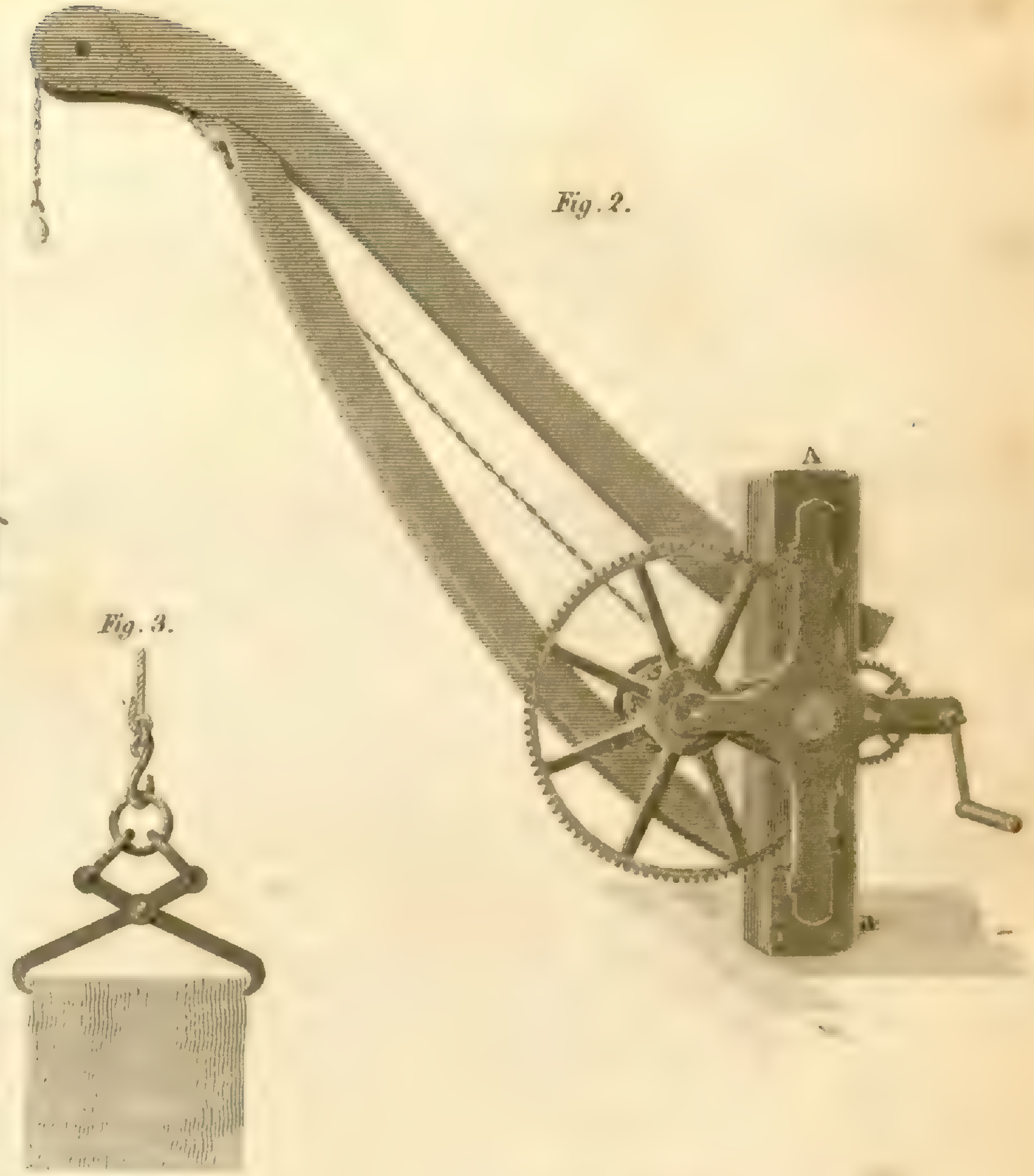


Fig. 3.

Fig. 4.

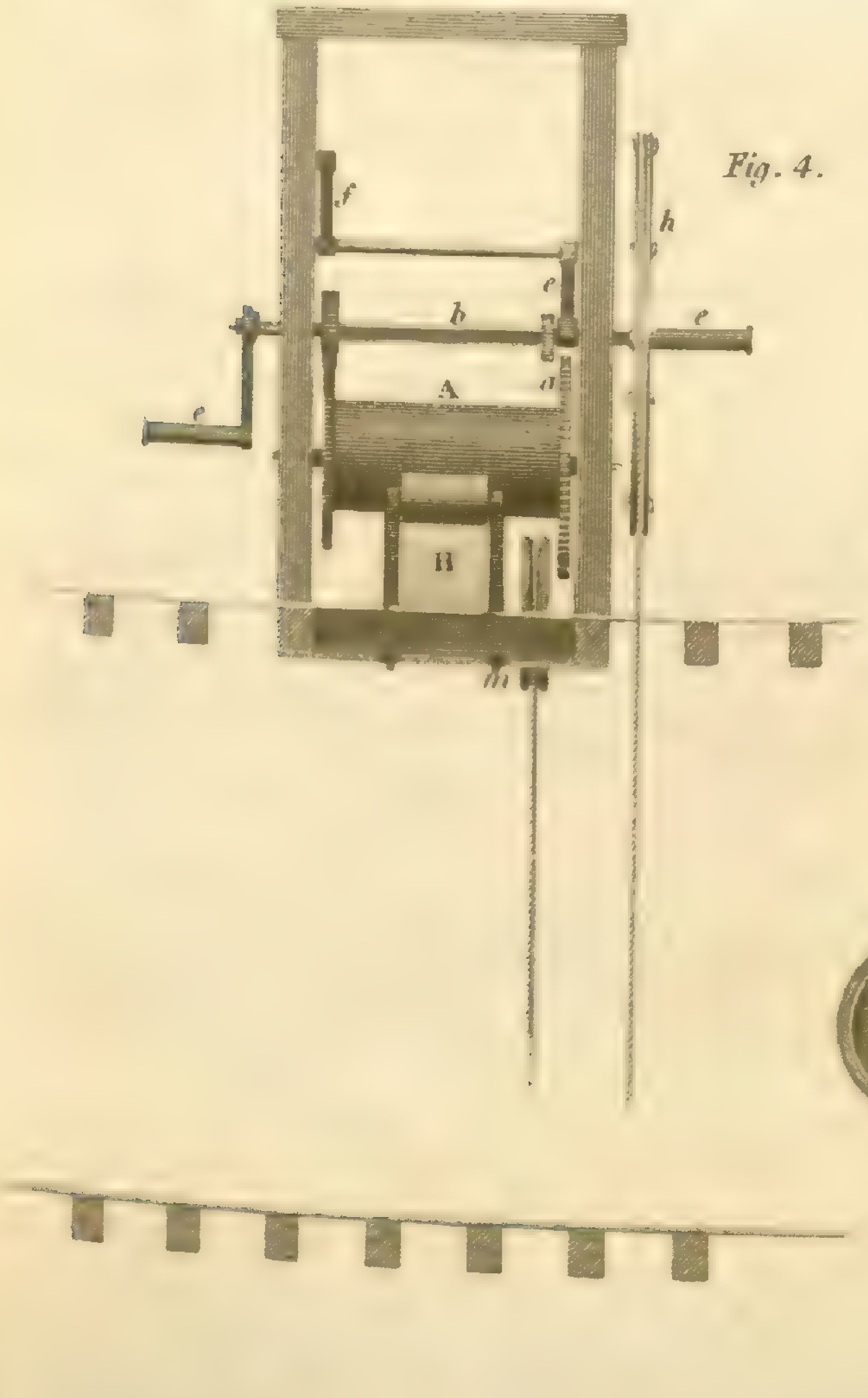
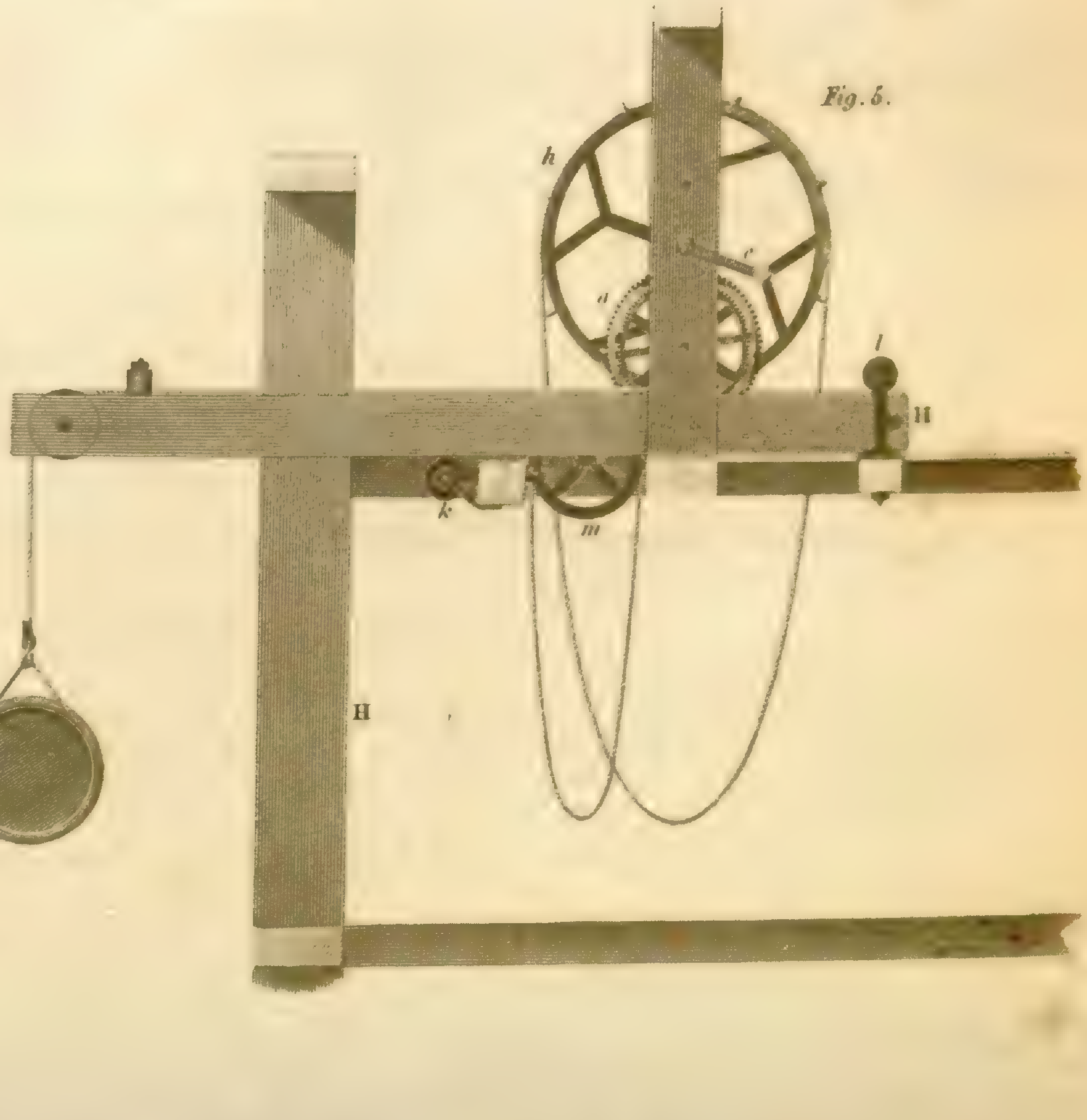


Fig. 5.



[illegible] delin.

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MECHANICS.

PLATE XXII & XXIII.

DIRECTION of Motion.

Fig. 3.

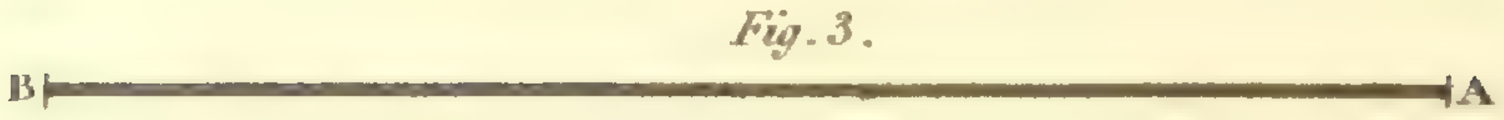


Fig. 6.

Direction, line of

Fig. 5.

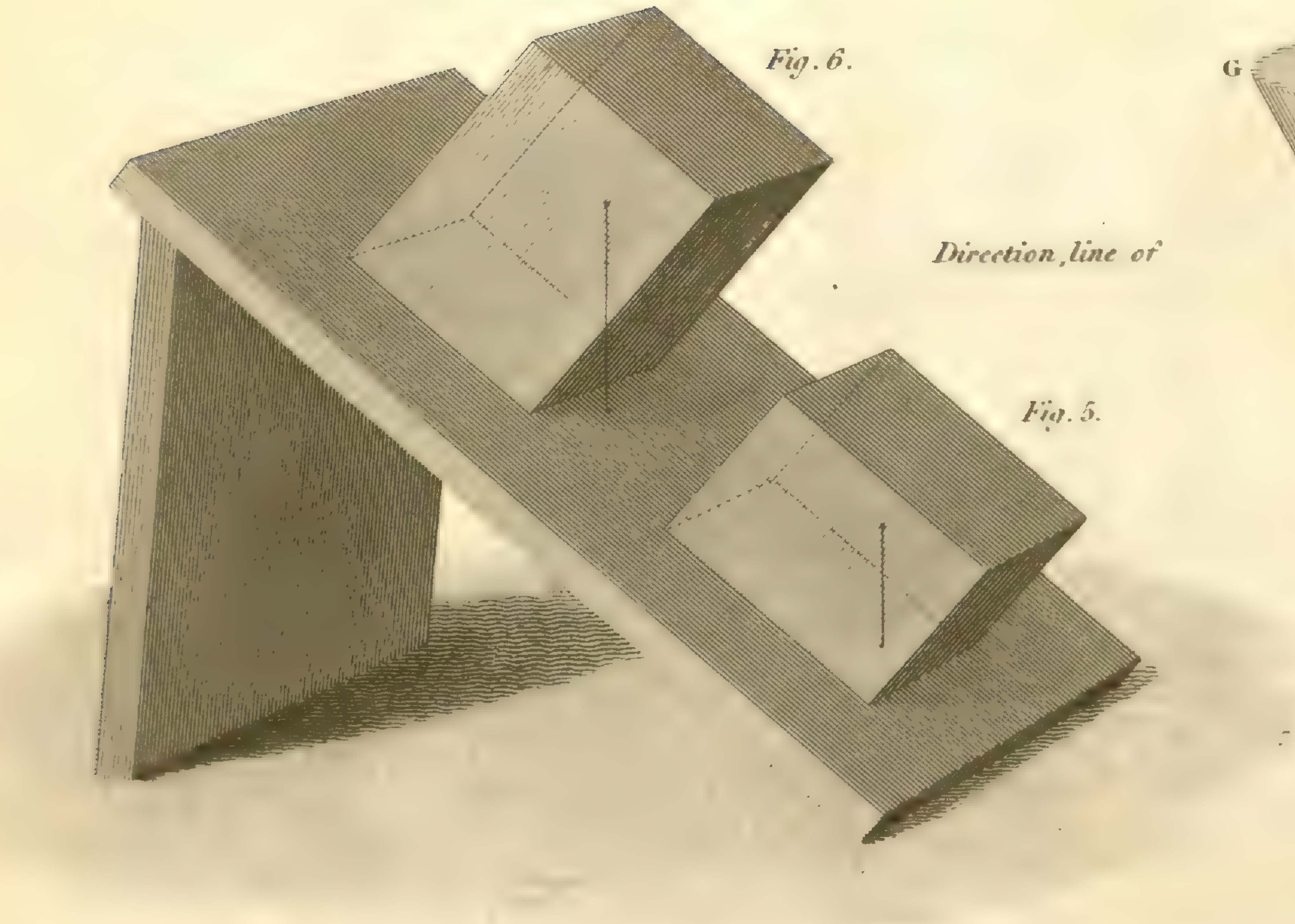
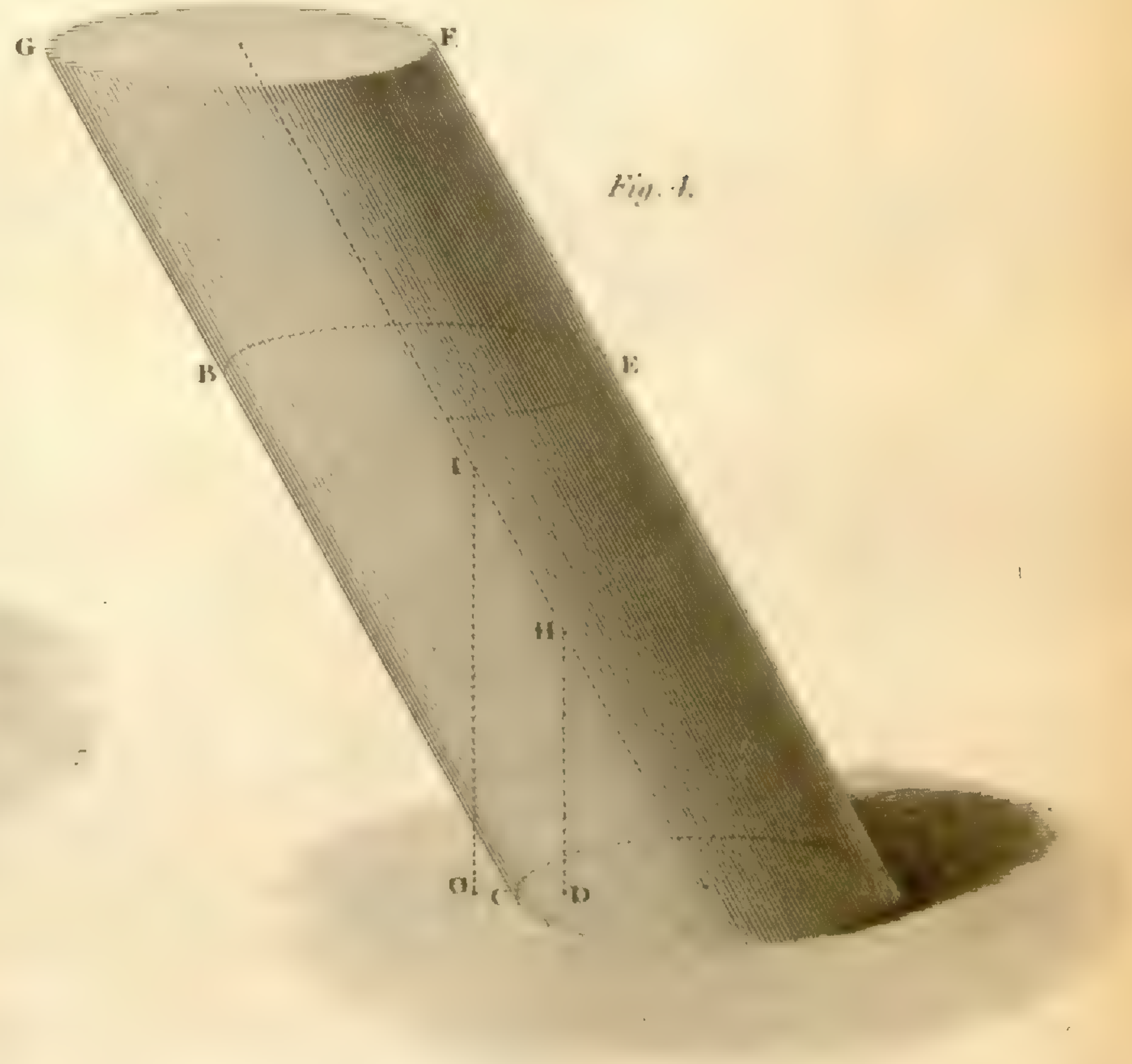


Fig. 4.



MECHANICS.

PLATE XXIII.

Mr. Hill's Machine for DRAWING out Ships Bolts.

Fig. 1.

Section.

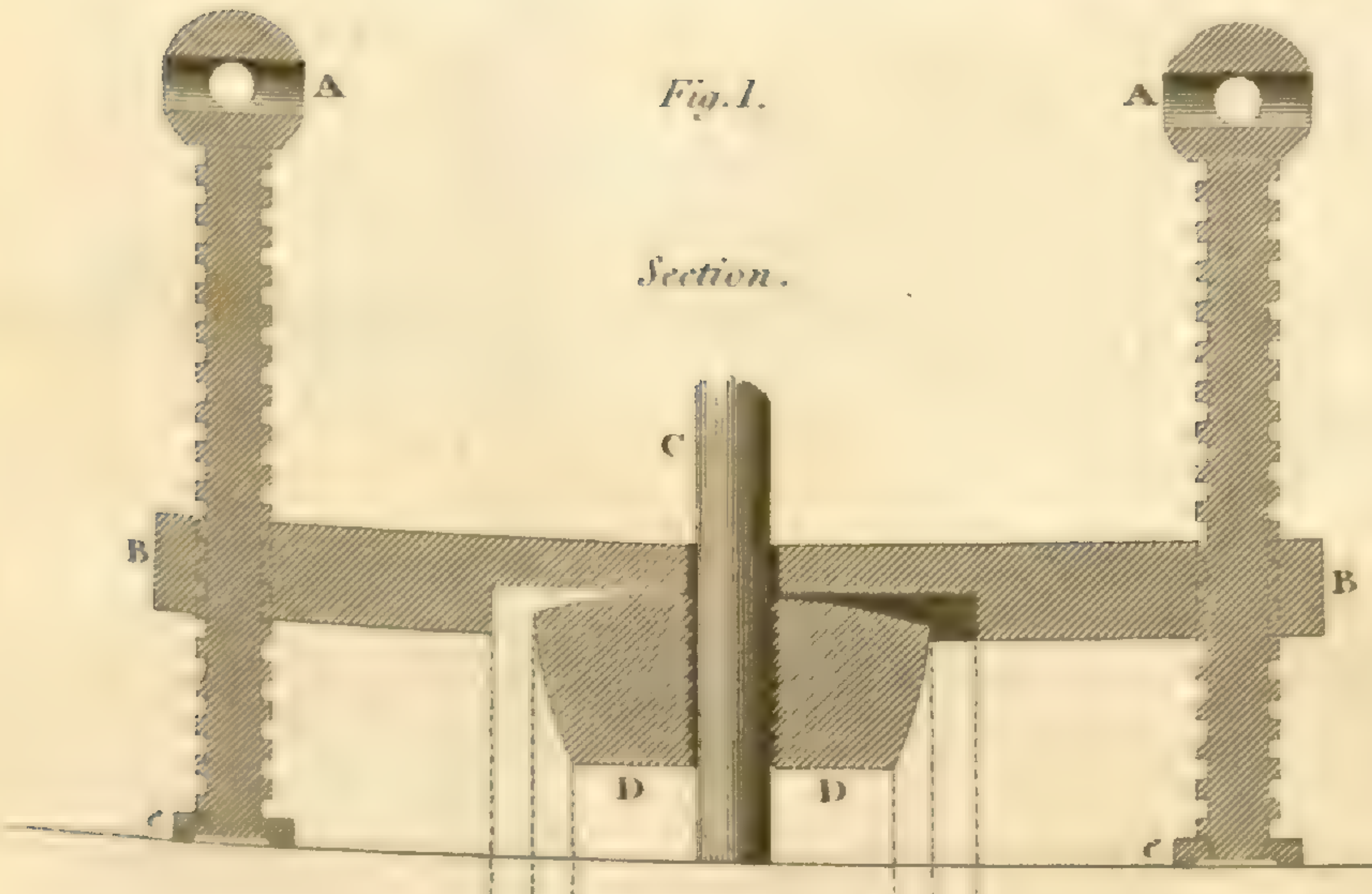


Fig. 2.

Elevation.

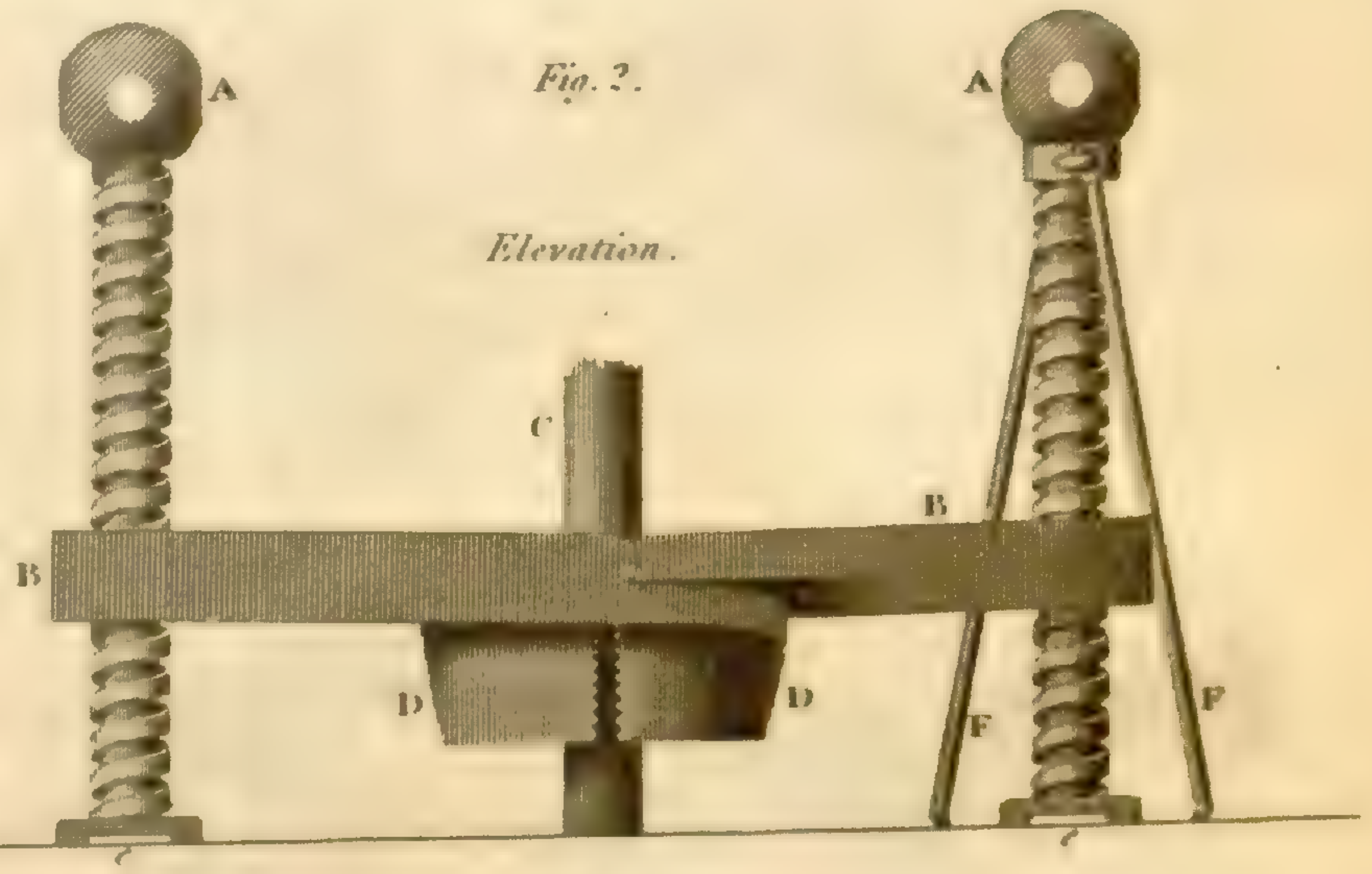
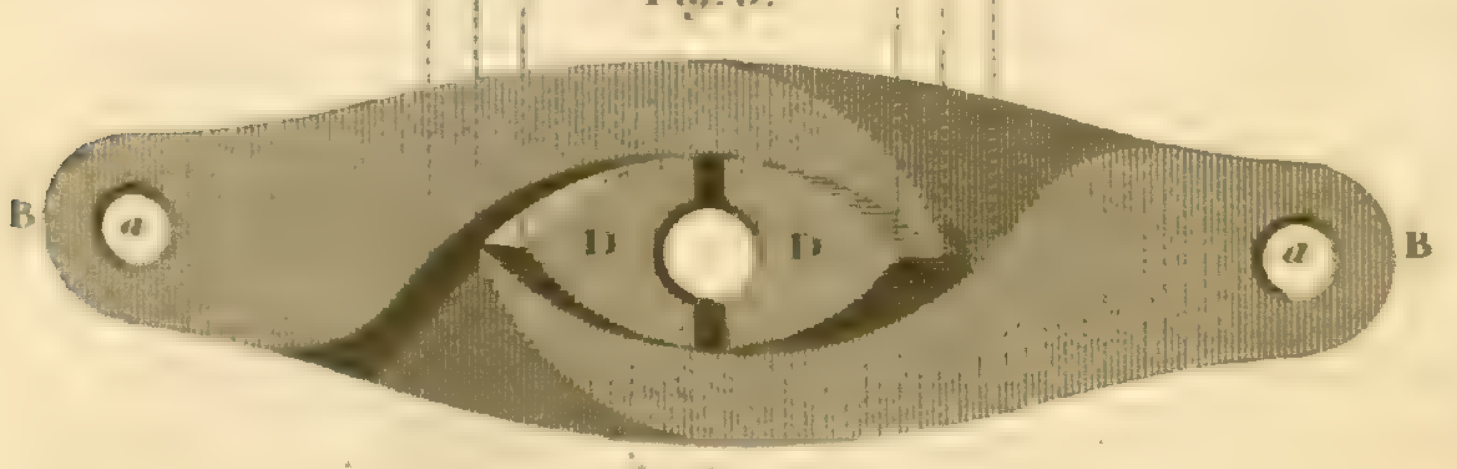
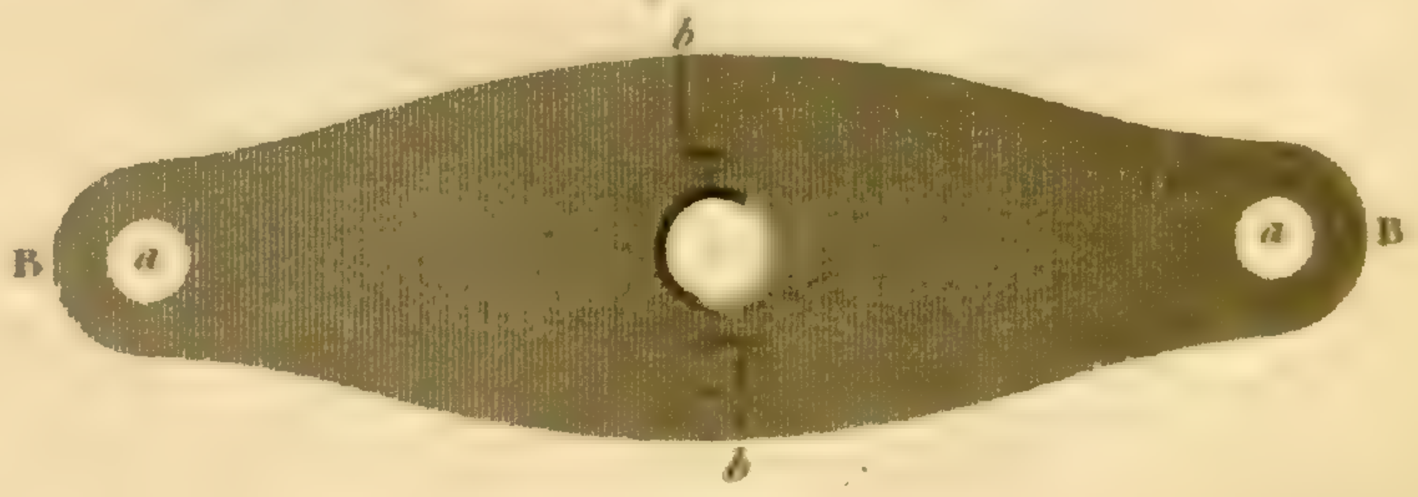


Fig. 3.



Plan of the lower Side.

Fig. 4.



Plan of the upper Side.

J. Farey del.

Lowry sculp.

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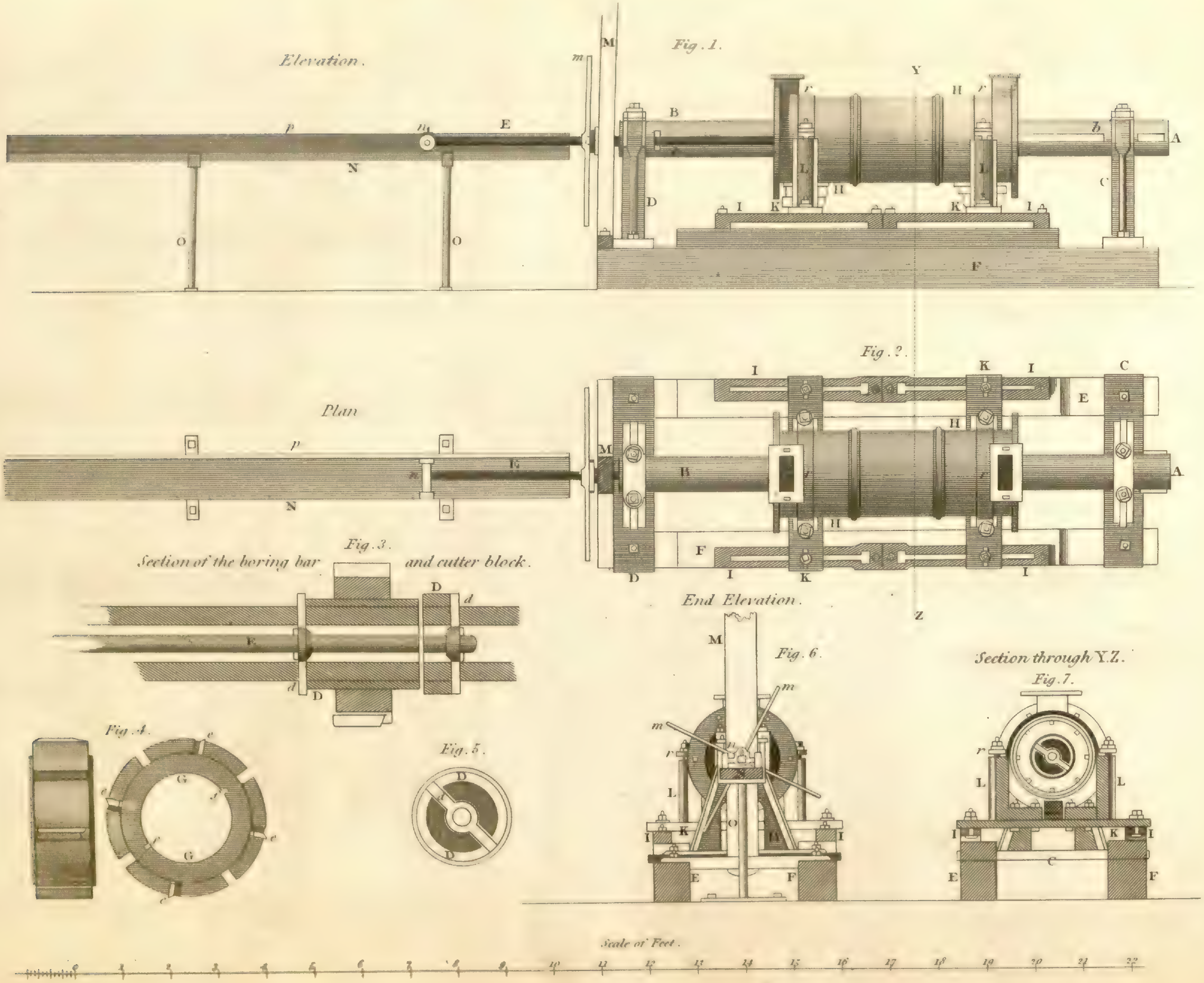
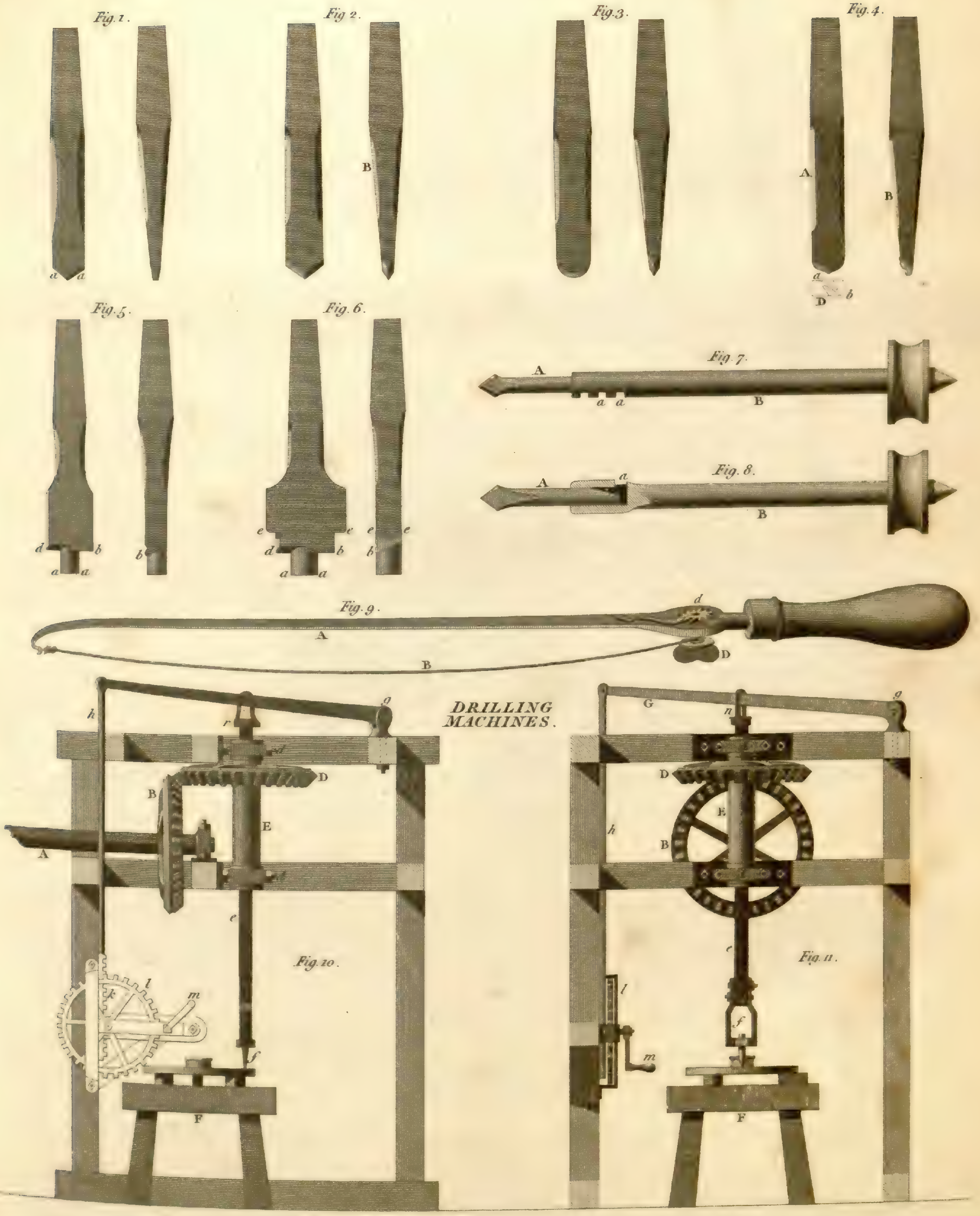
Machine for boring Cylinders, at the Falcon Iron Foundery, made by Mr. Dixon.



J. Farey Junr. delin. Published as the Act directs 1818 by Longman Hurst Rees Orme & Brown Paternoster Row. Lowry Sc.

DRILLS.



J. Farey Junr delin.

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MECHANICS.

DYNAMICS.

Fig. 1.

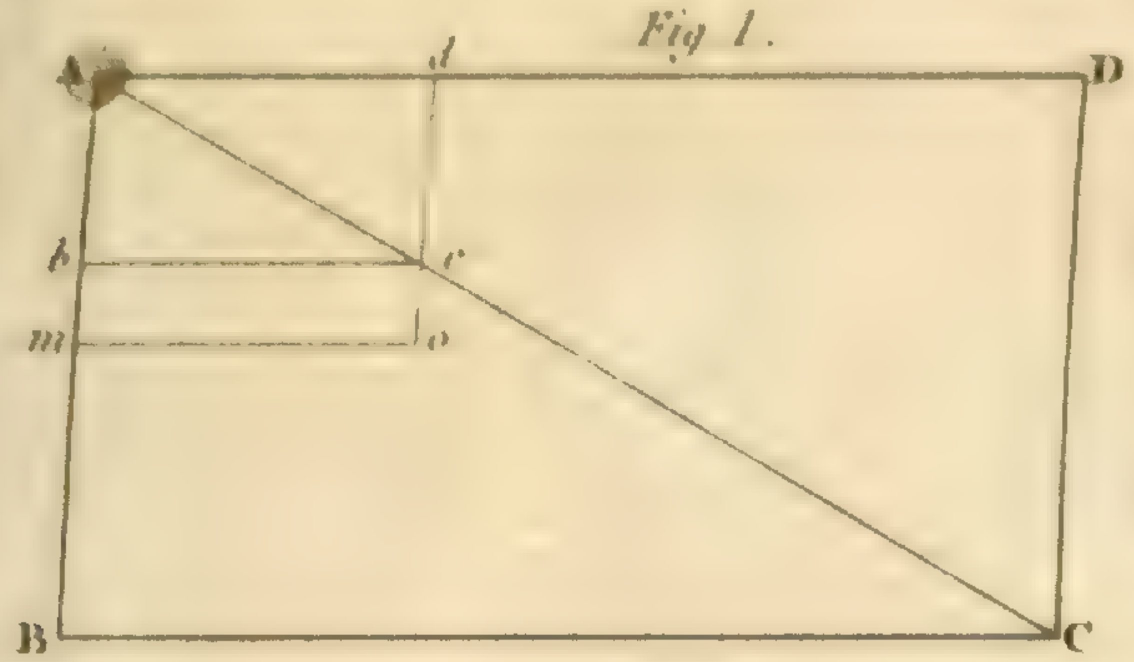


Fig. 2.

Fig. 3.

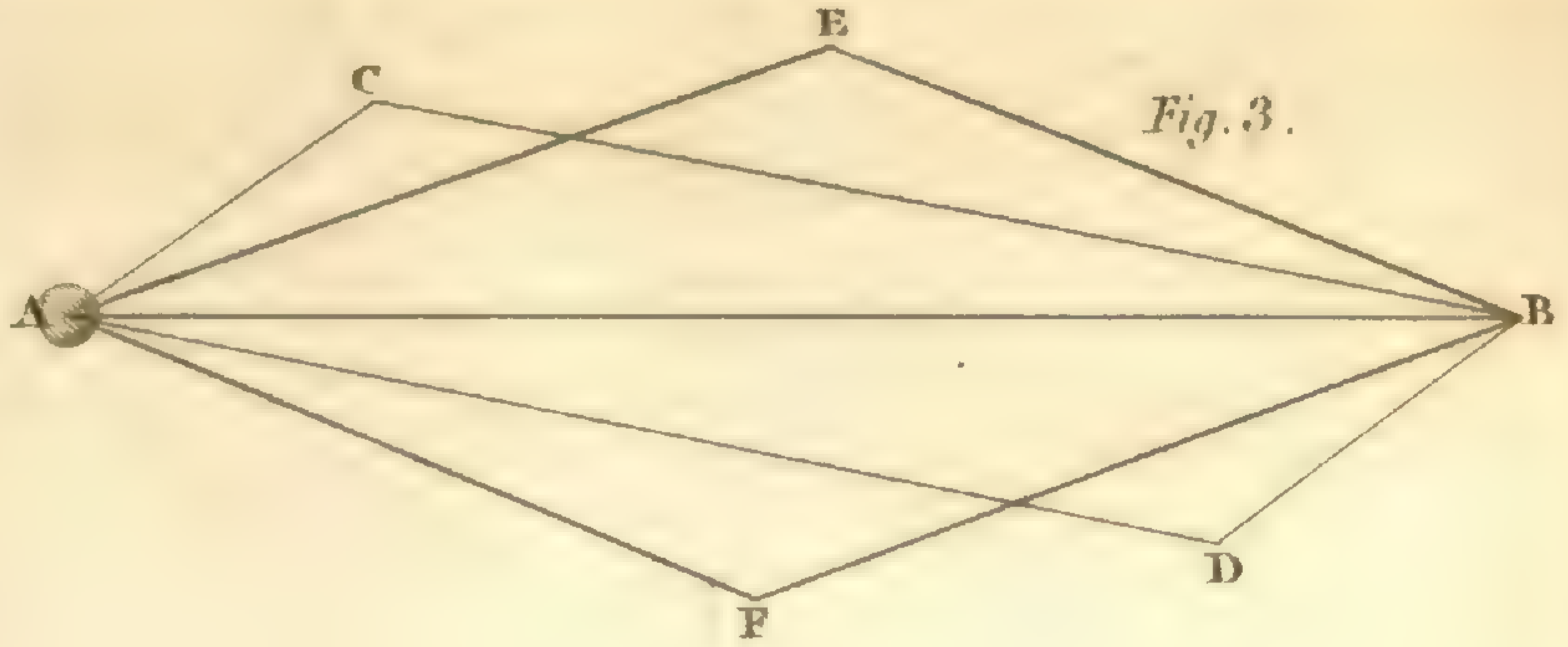


Fig. 4.

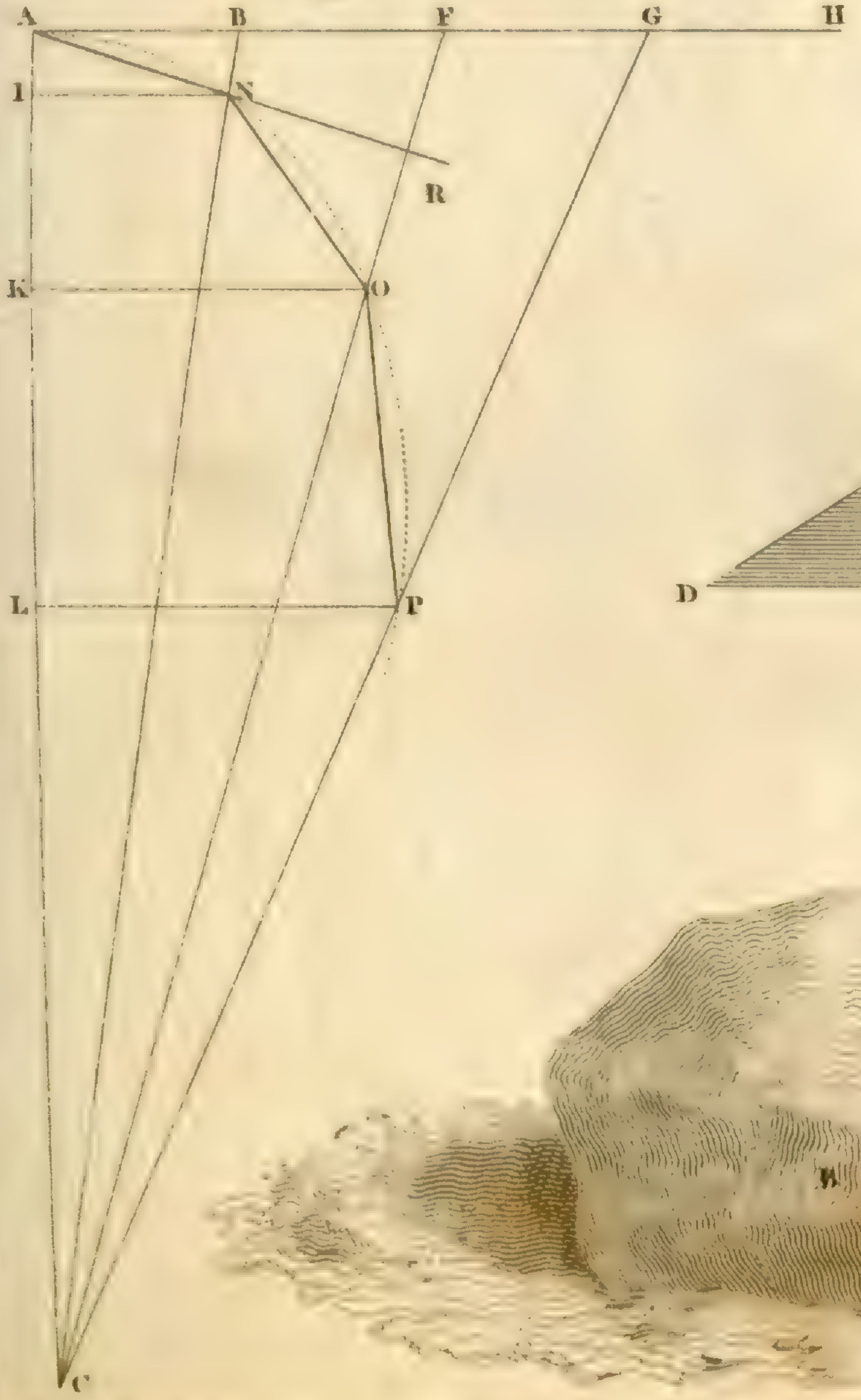


Fig. 5.

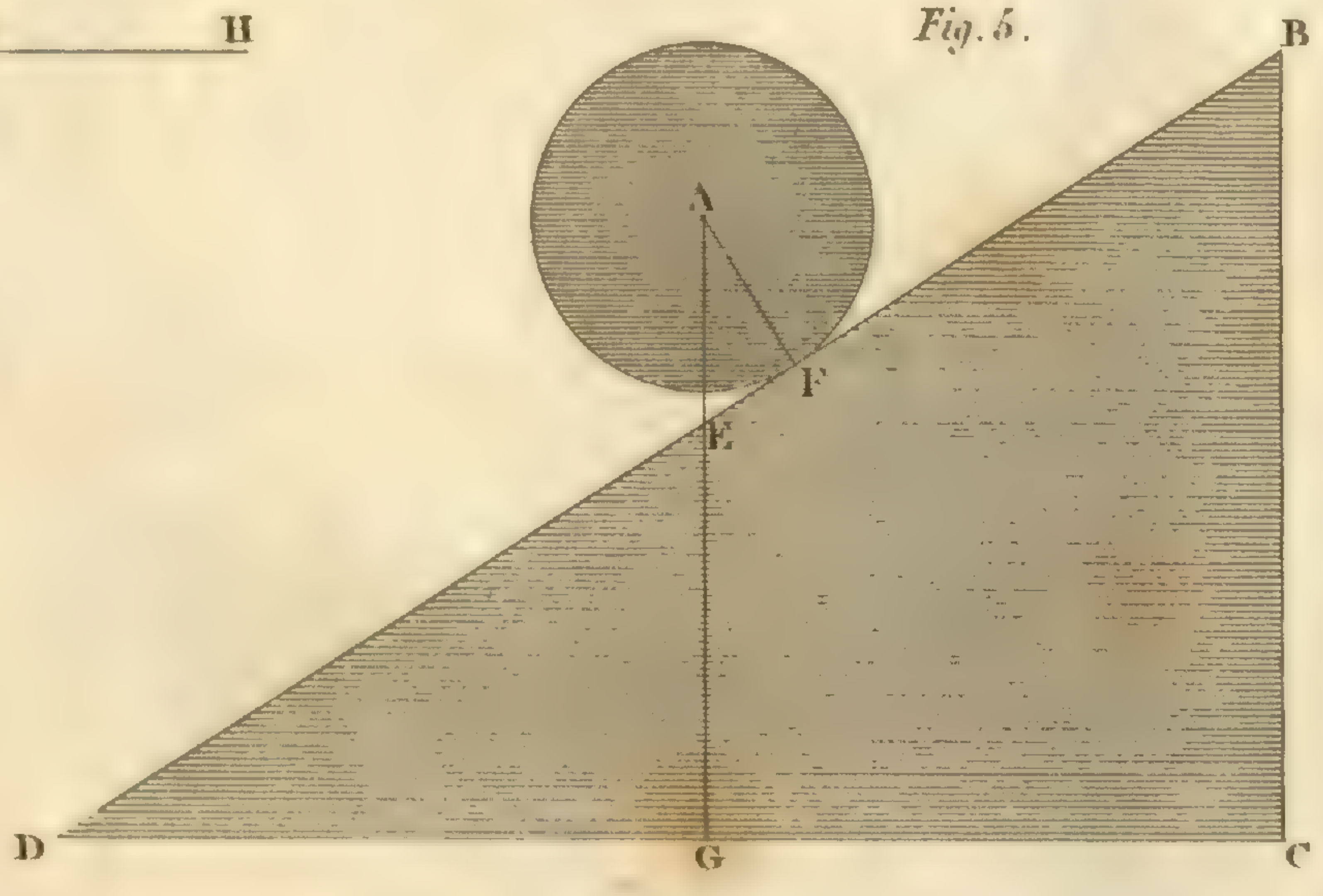


Fig. 6.

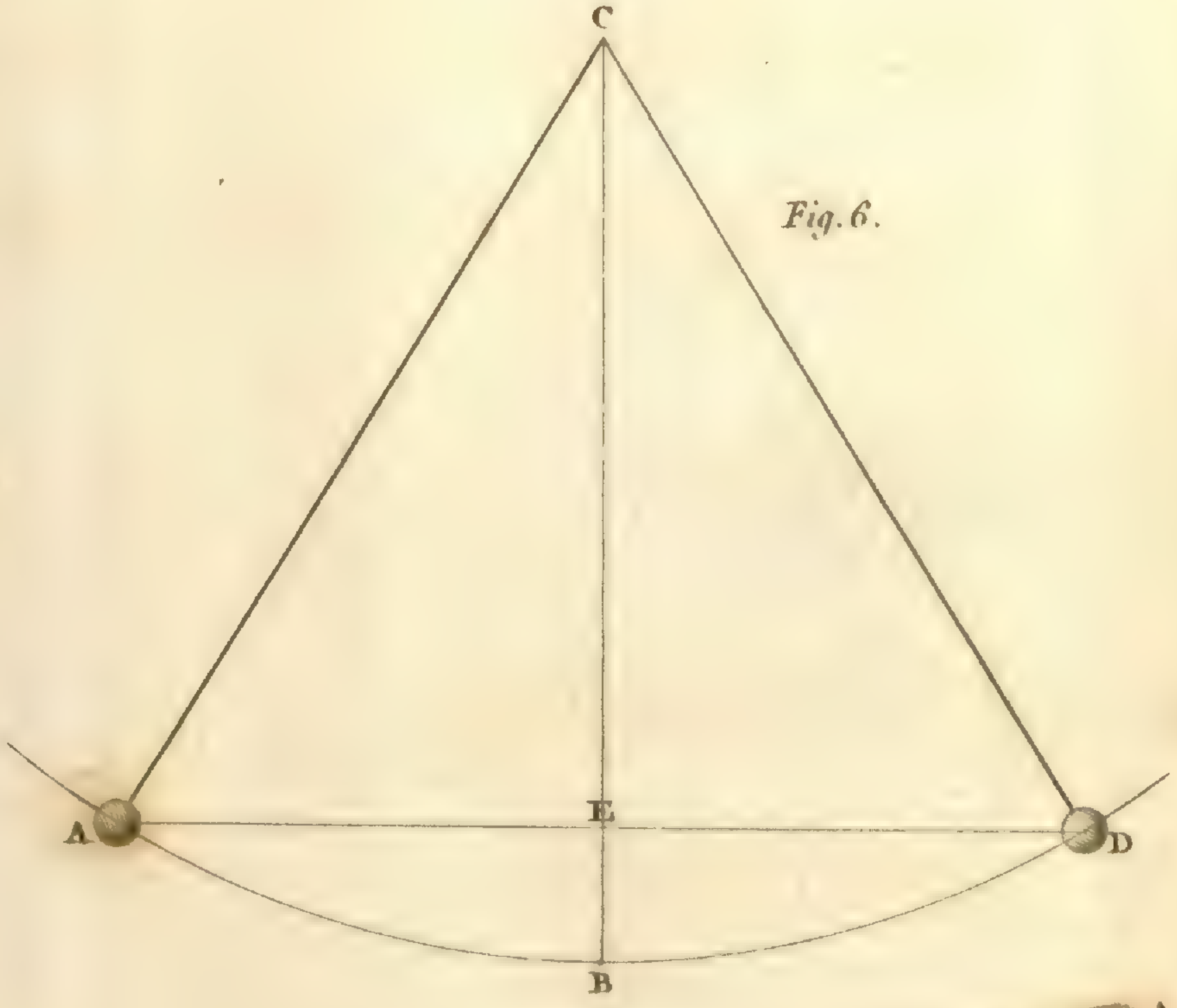
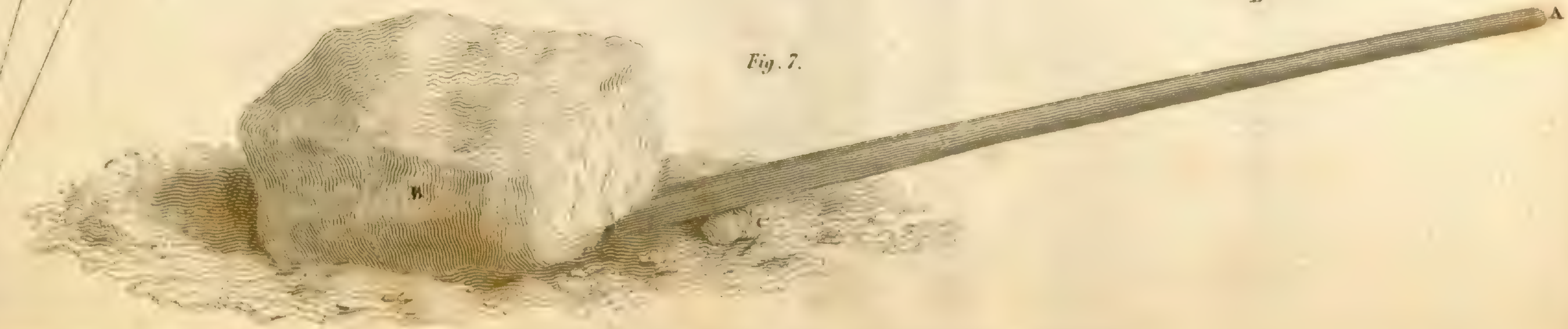


Fig. 7.



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Engraved by Wilson Lowry.

DYNANOMETERS

FOR MEASURING THE FORCE OF DRAUGHT.

Mr. Mc. Dougales.

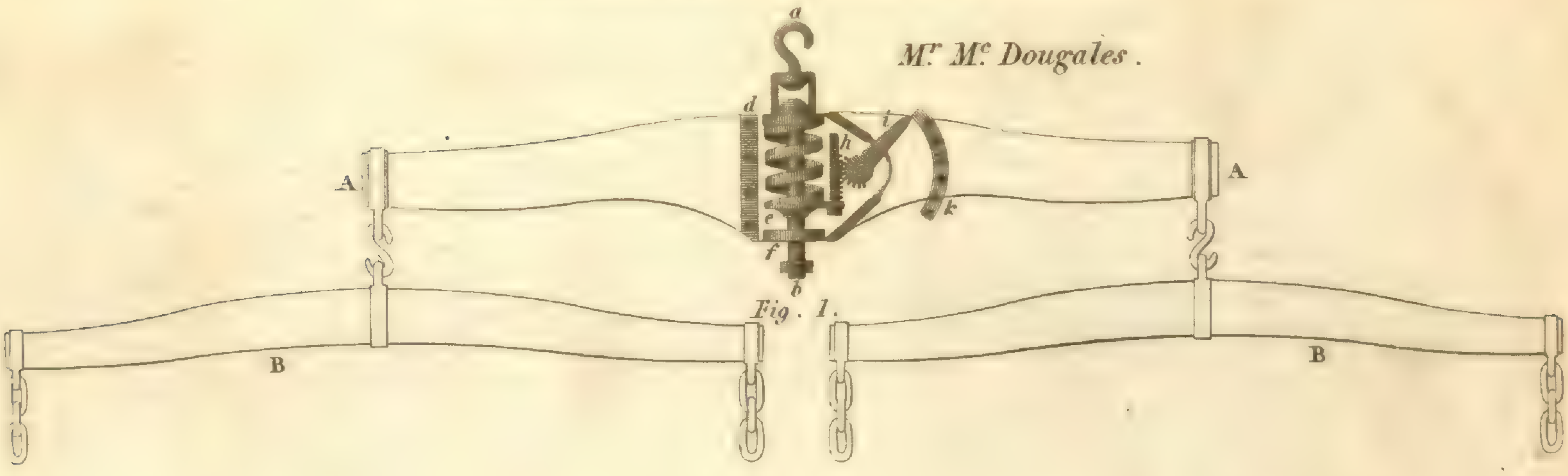


Fig. 1.

Fig. 3.

Mr. Salmons contrivance for determining the force required to work a Mill.

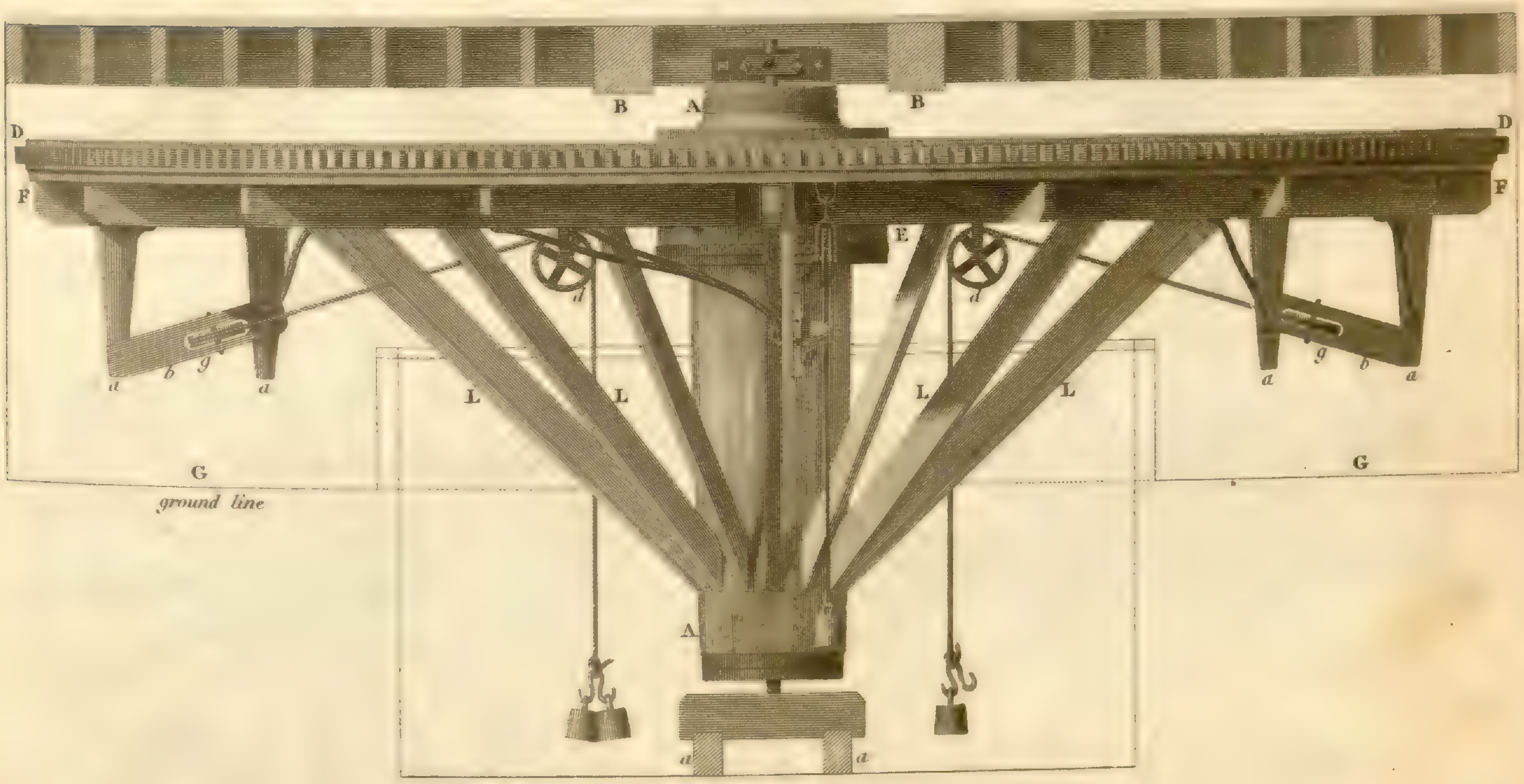
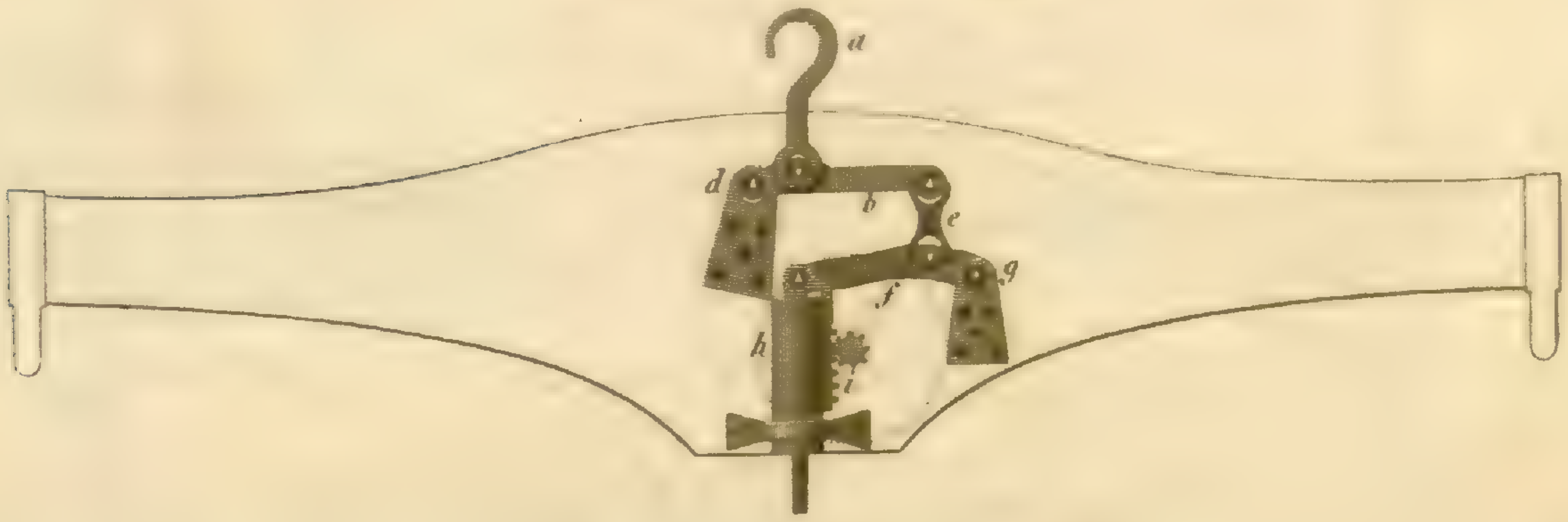


Fig. 2.

Mr. Salmons Dynanometer.



J Farey Junr. delin.

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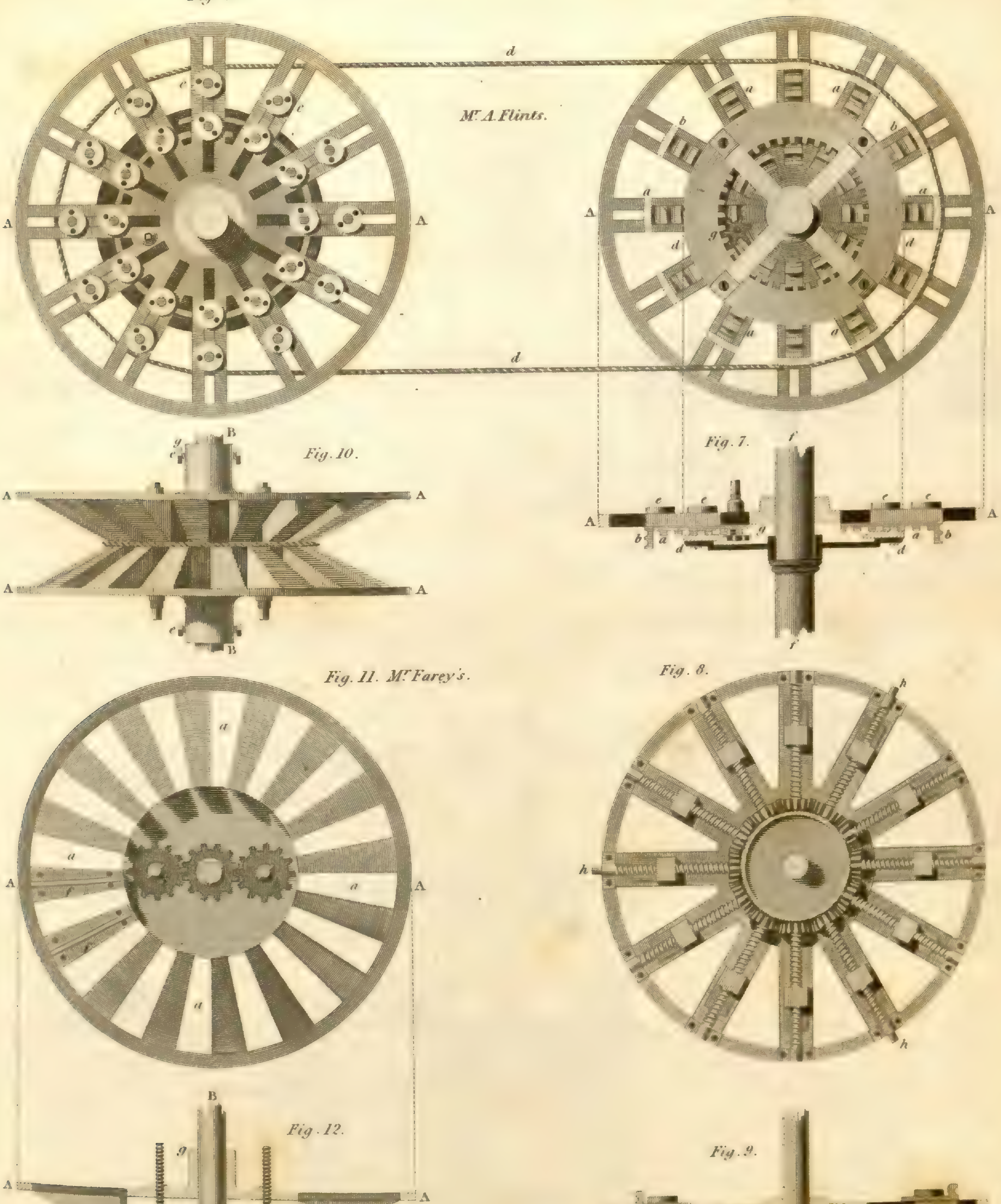
EXPANDING RIGGERS.



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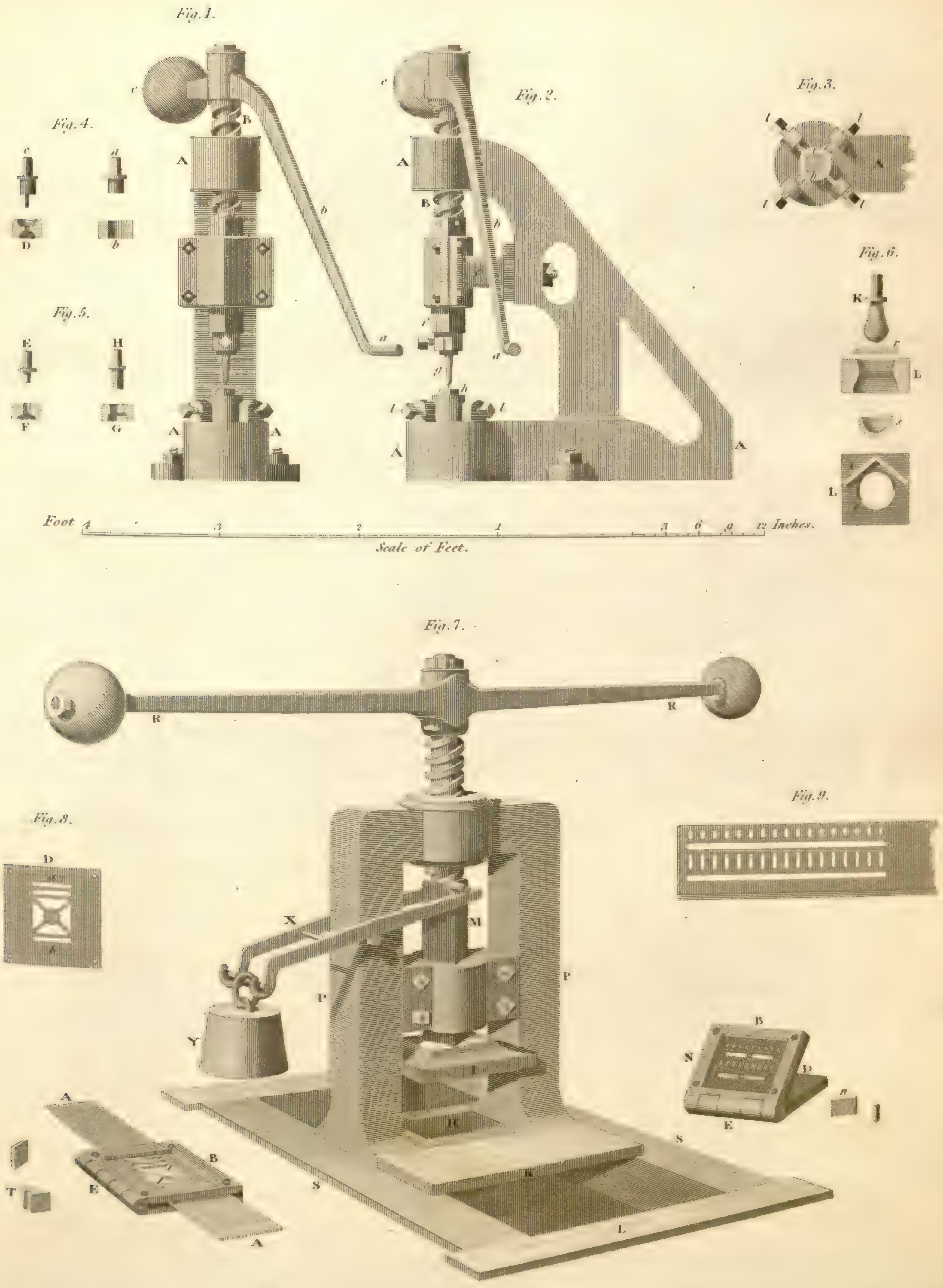
FLY-PRESS.

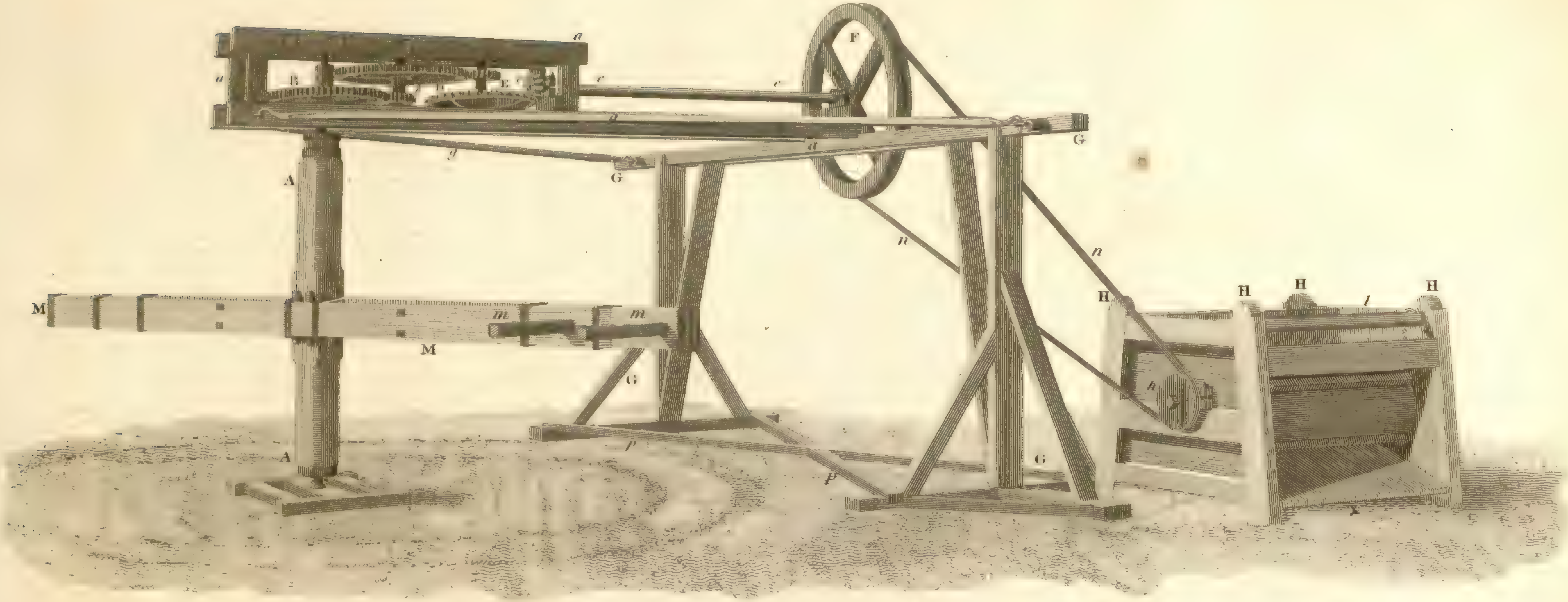


Published as the Act directs 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

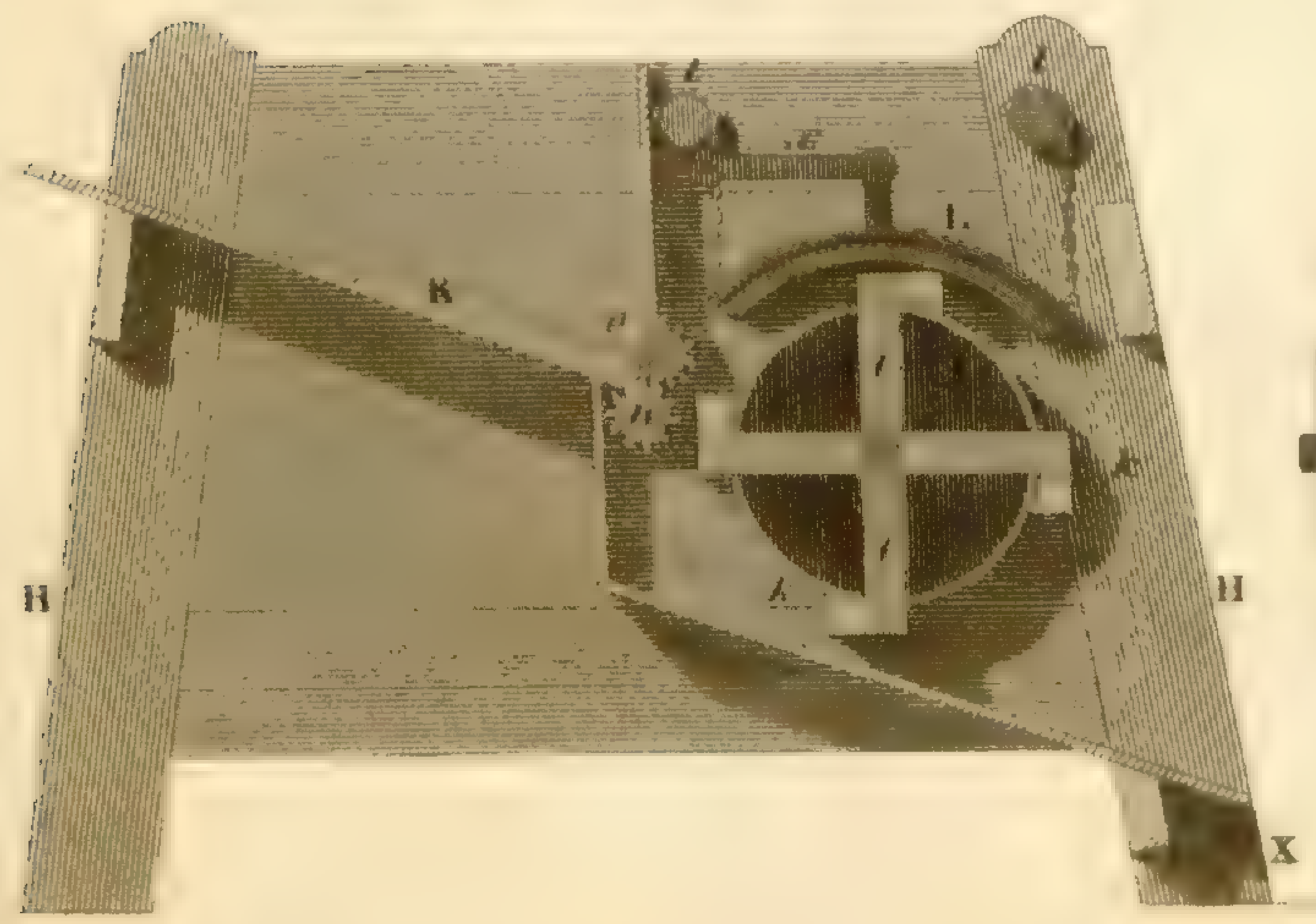
Lowry sculp

Mr. R. SALMON'S, PORTABLE THRASHING MILL.

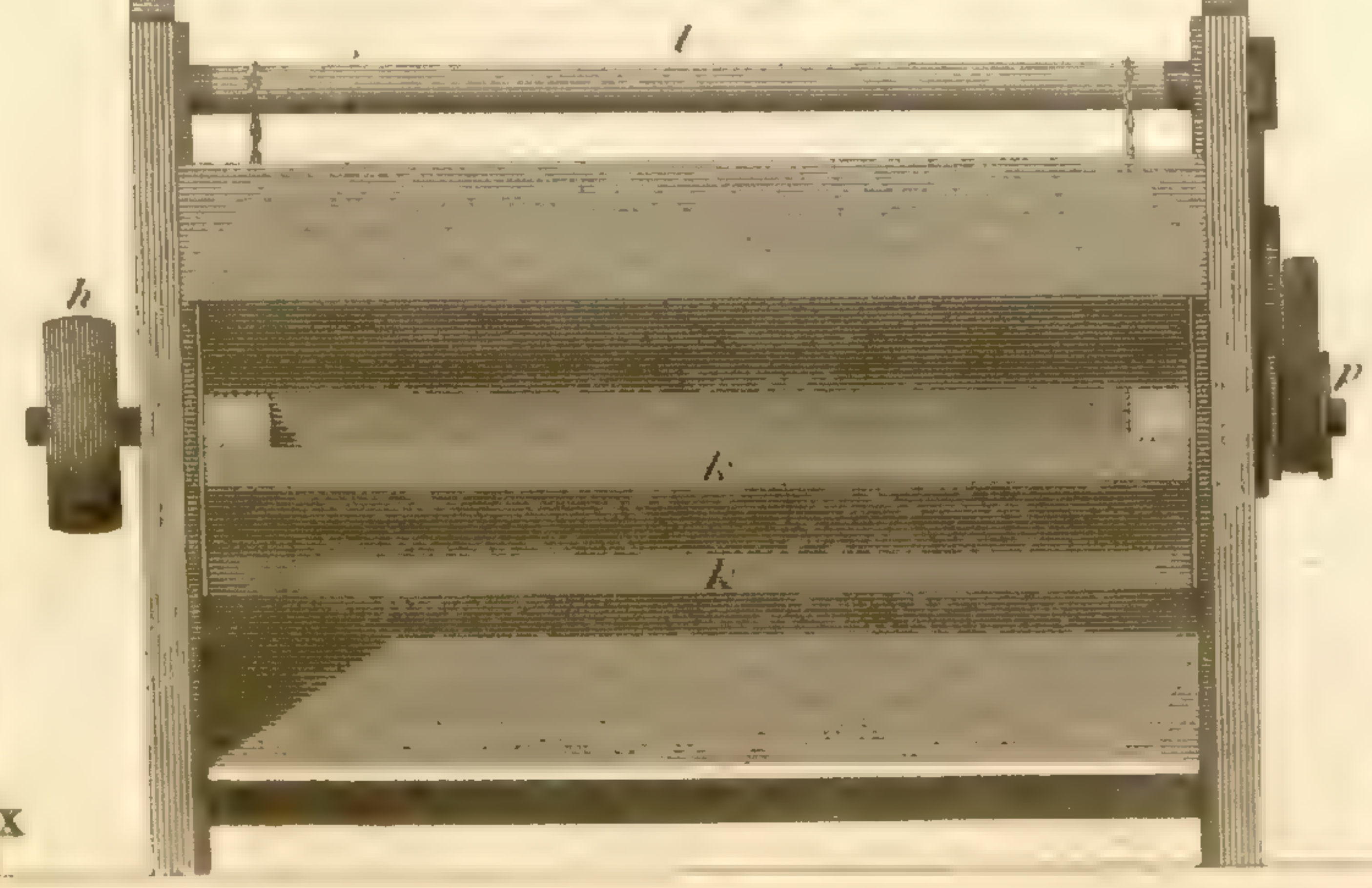
Perspective View Fig. 1.



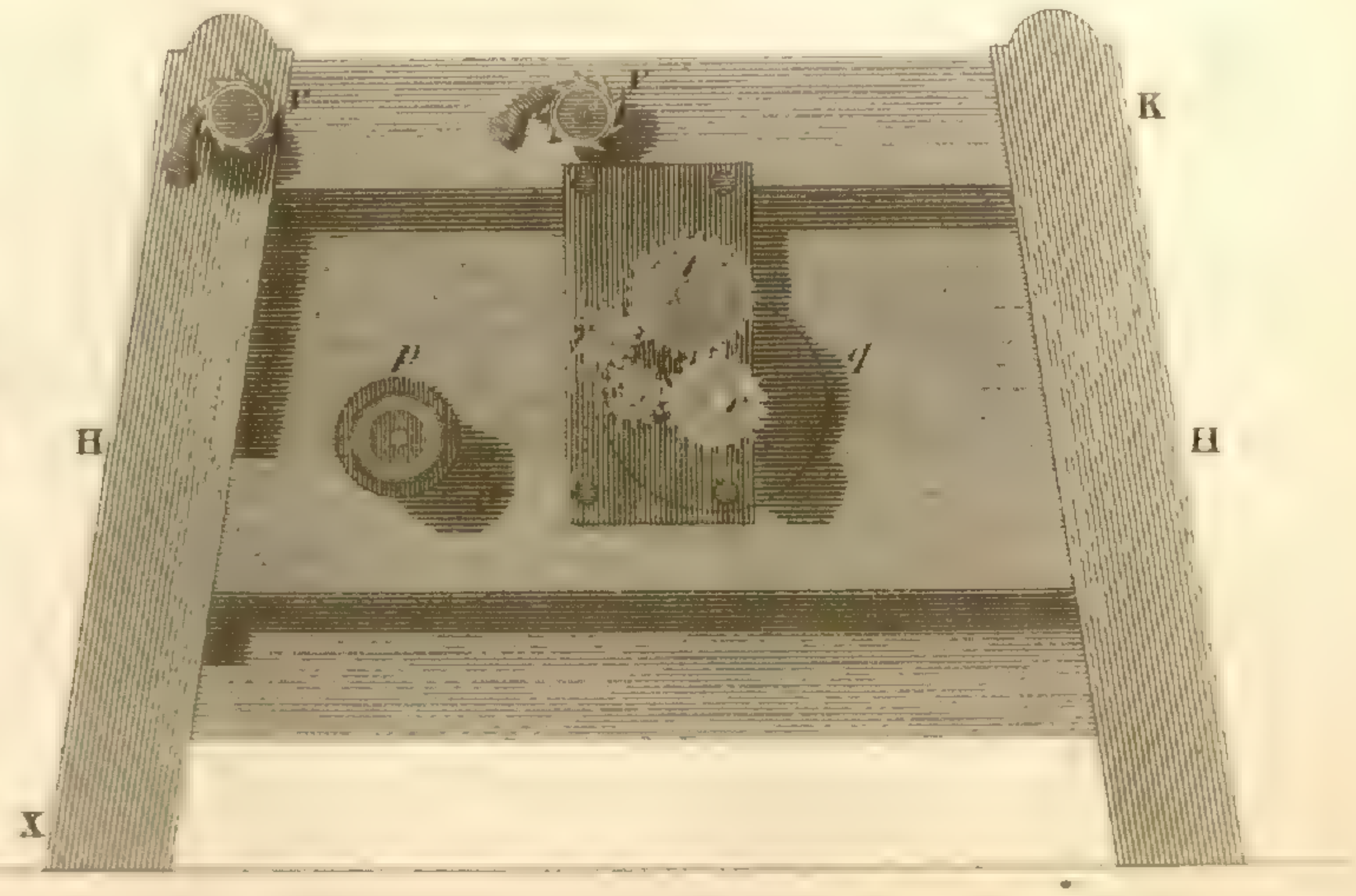
Section Fig. 2.



End View Fig. 3.



Elevation Fig. 4.

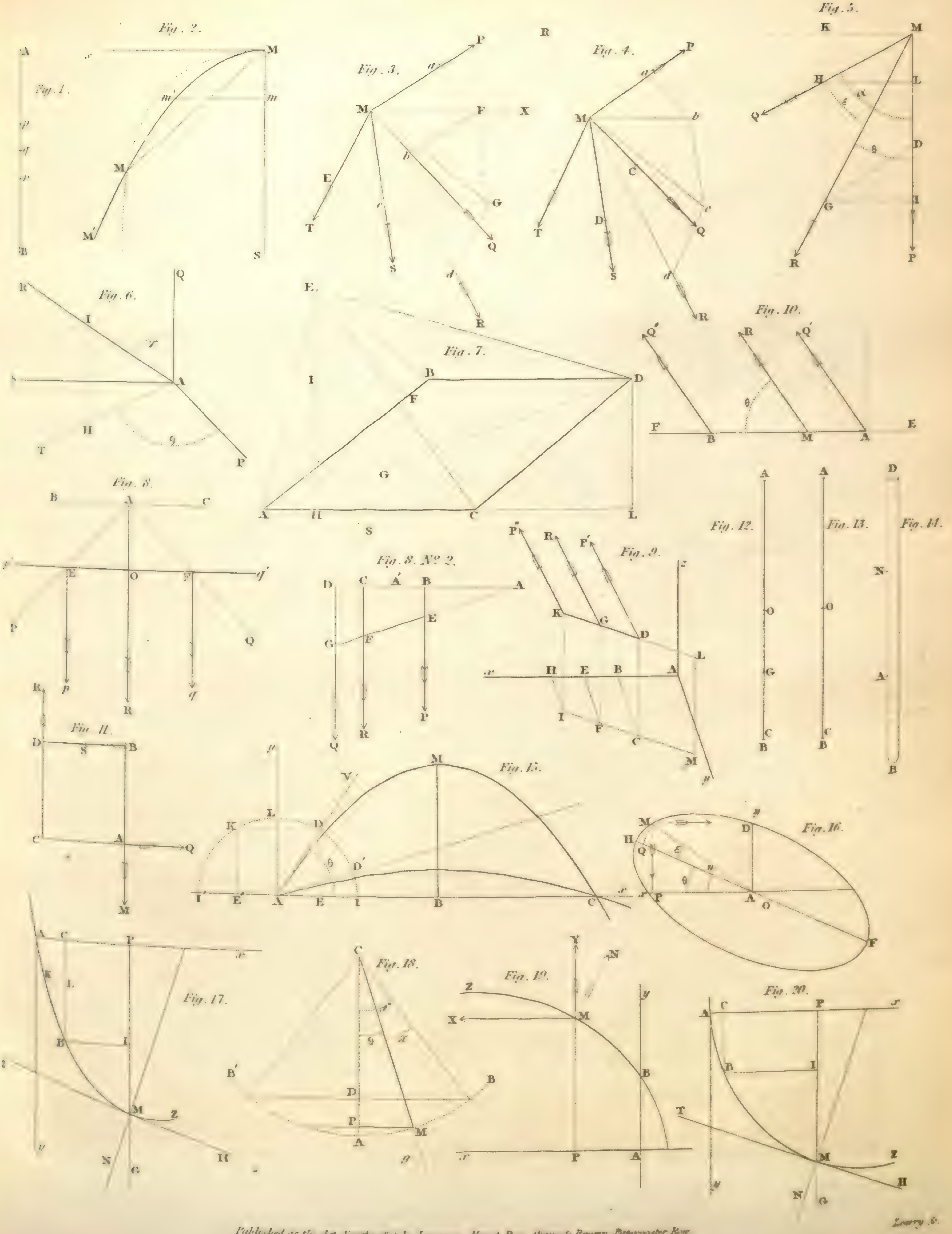


J. Farey Junr. del.

London, Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry sculp.

FORCE.



Published as the Act directs 1818 by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry sc.

FRICTION AND FULLING MILL.

Fig. 3.

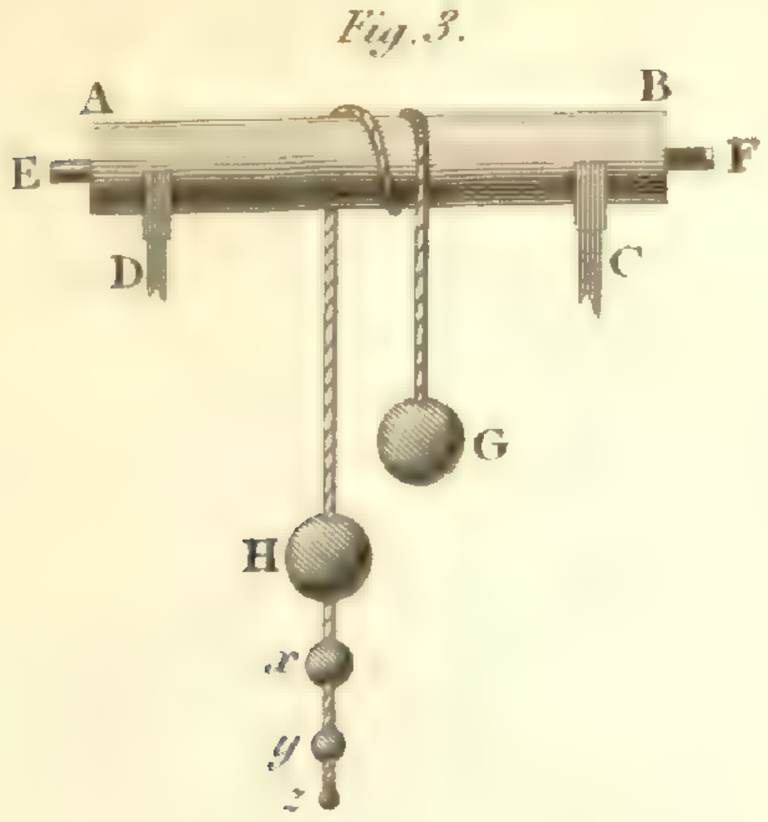


Fig. 2.

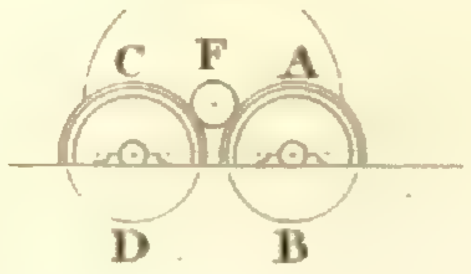
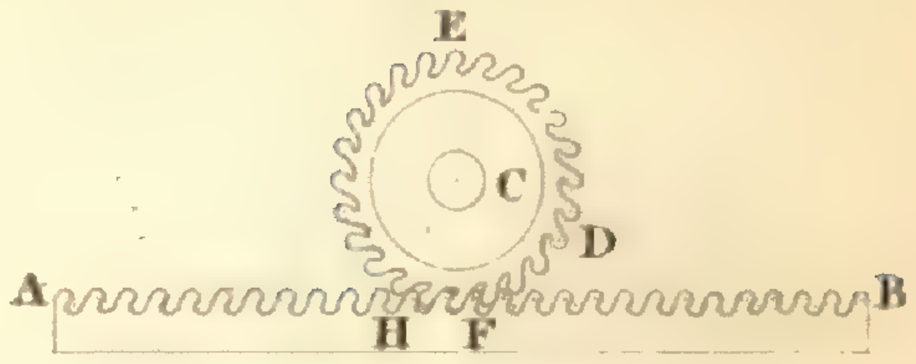
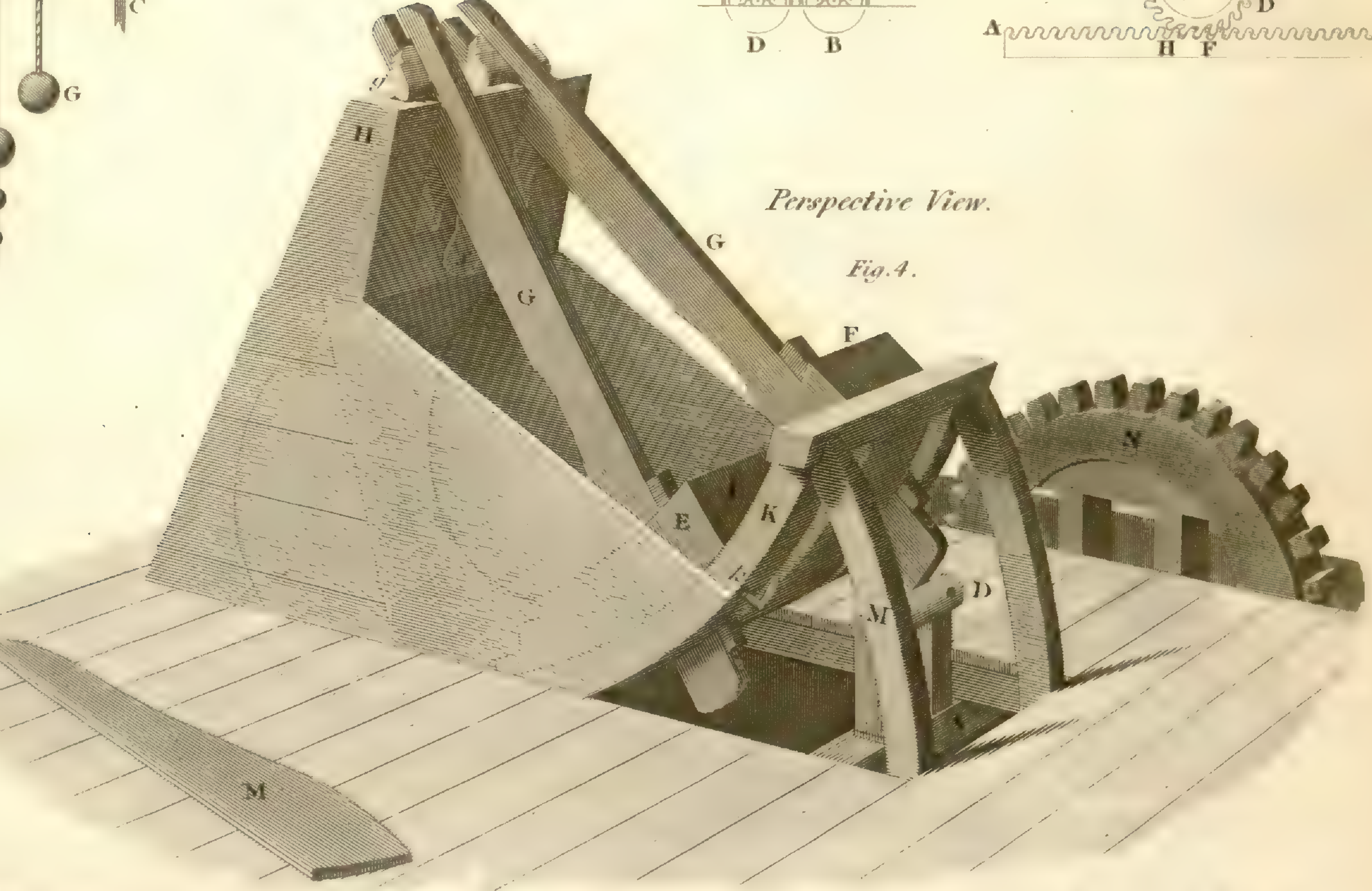


Fig. 1.



Perspective View.

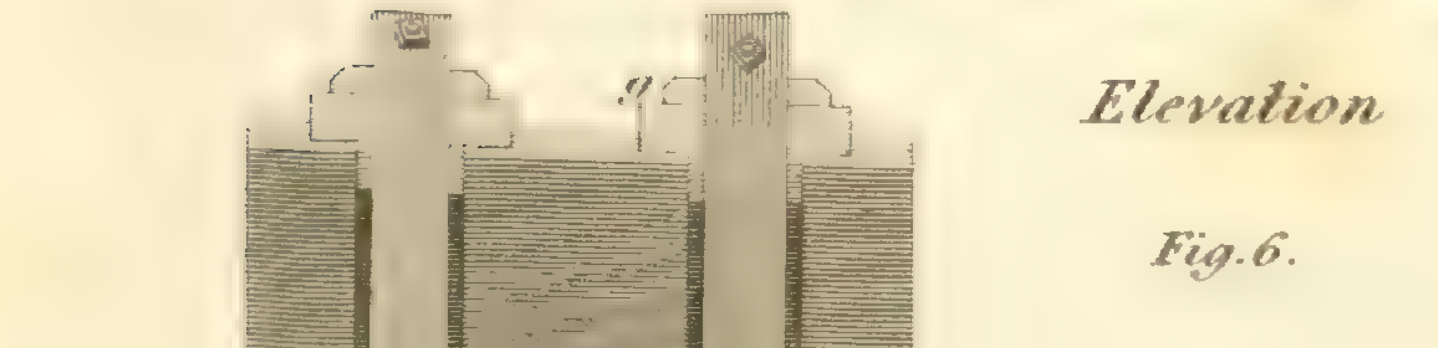
Fig. 4.



Note, these Stocks are for Scouring; for Milling cloth the trough a.a. is differently formed. see Woollen.

Elevation

Fig. 6.



Section

Fig. 5.

J. Farey Junr. del.

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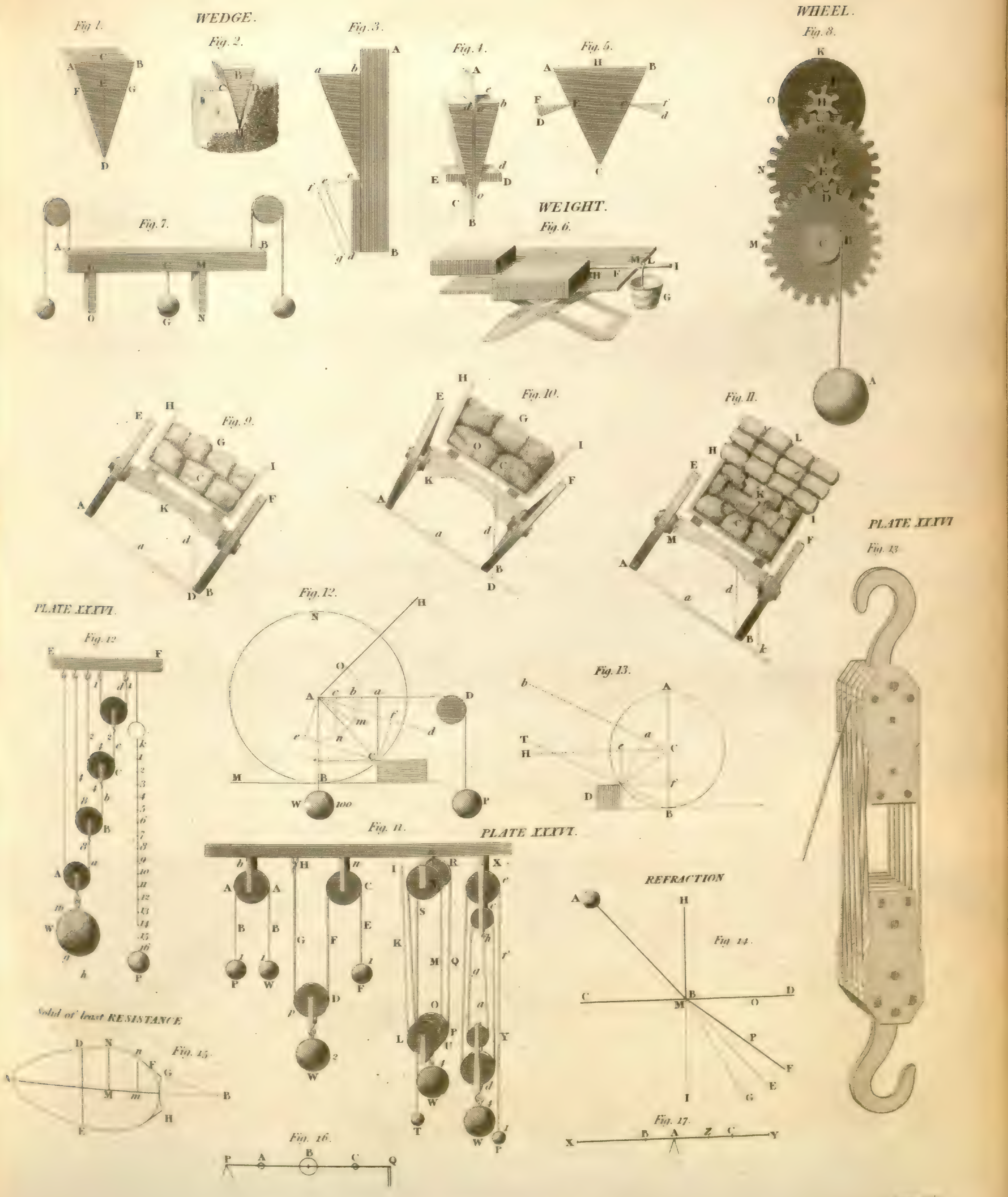
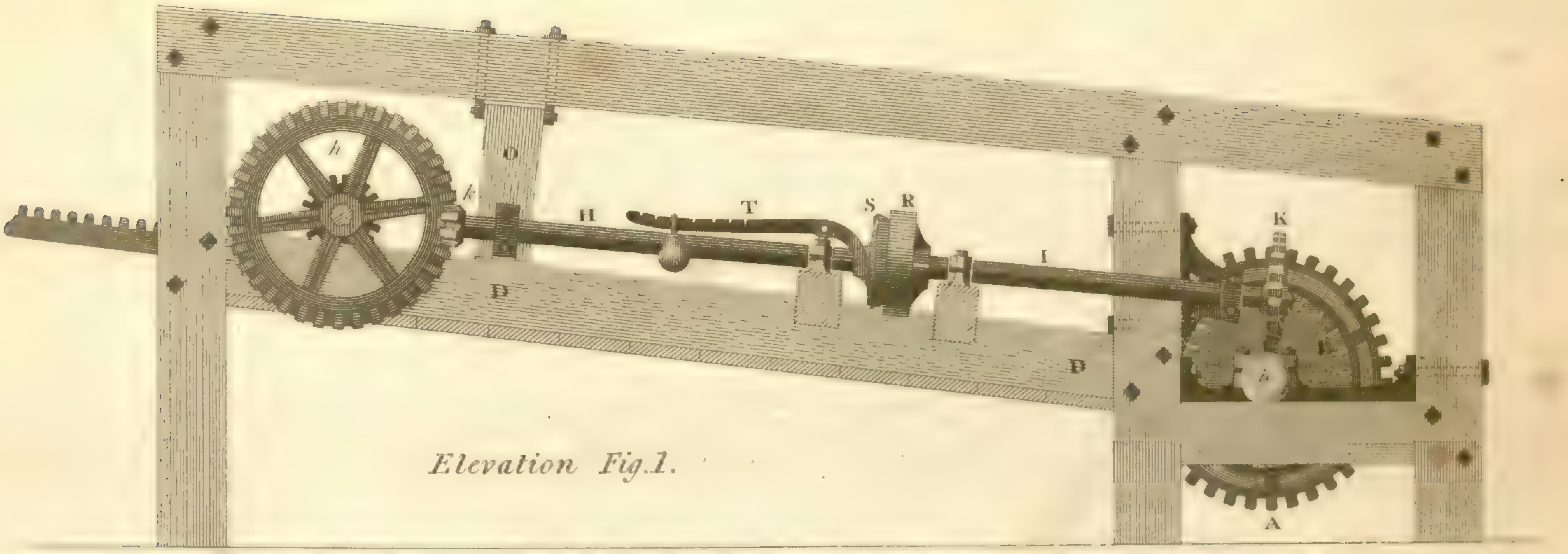
Lowry Sc.



Lowry sculp.

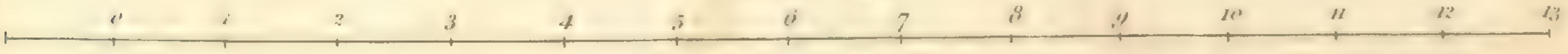
Published as the Act directs, 1819, by Longman, Hurst, Rees, Orme & Brown Paternoster Row London.

LOG-WOOD MILL.



Elevation Fig. 1.

Scale of Feet.



Plan. Fig. 2.

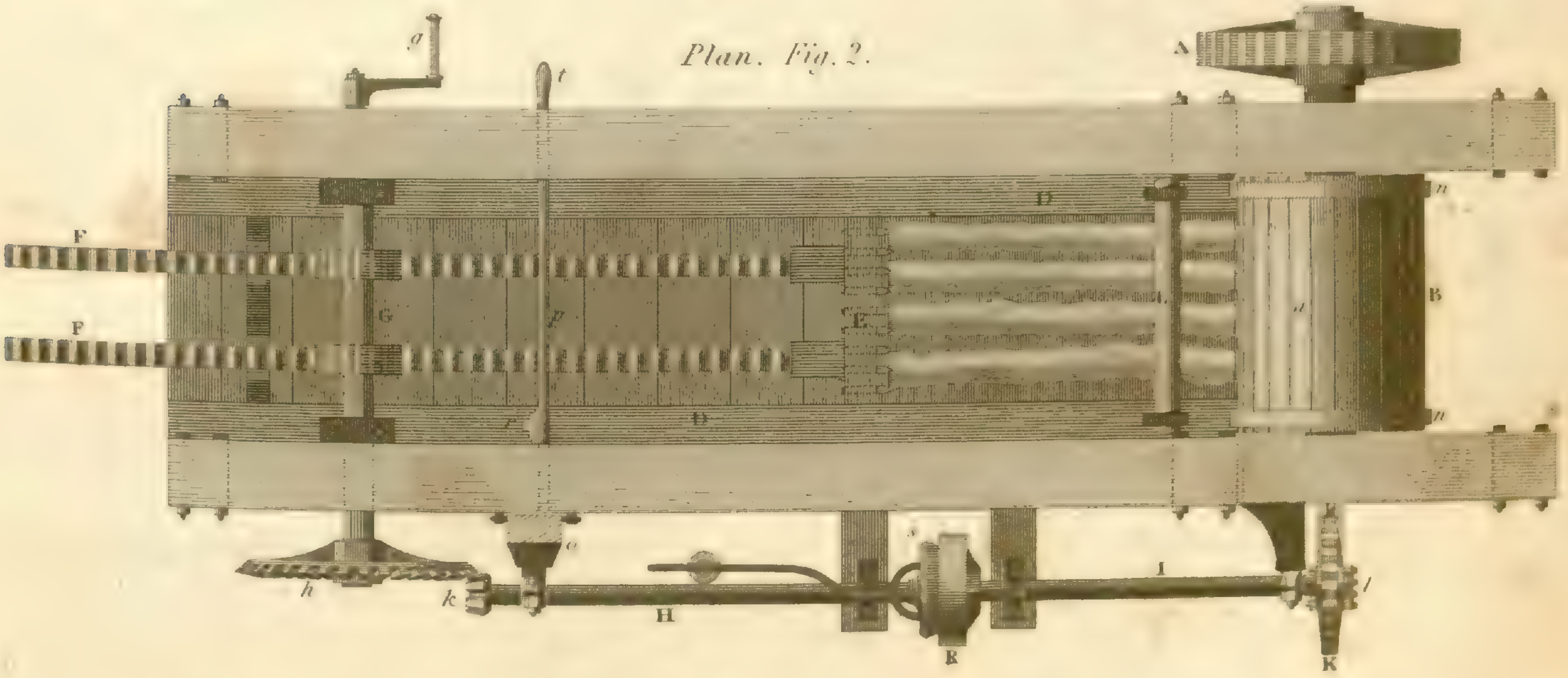


Fig. 4.

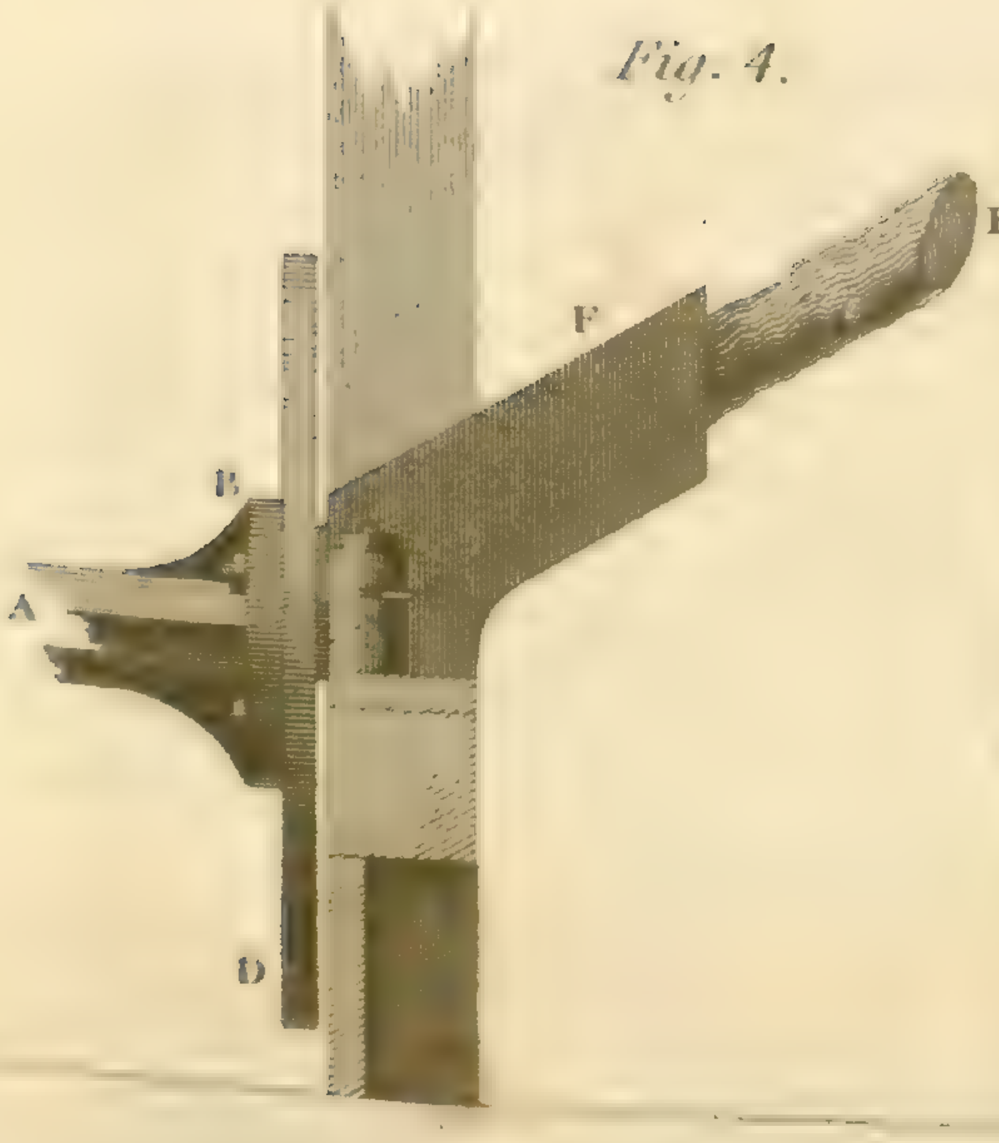


Fig. 5.

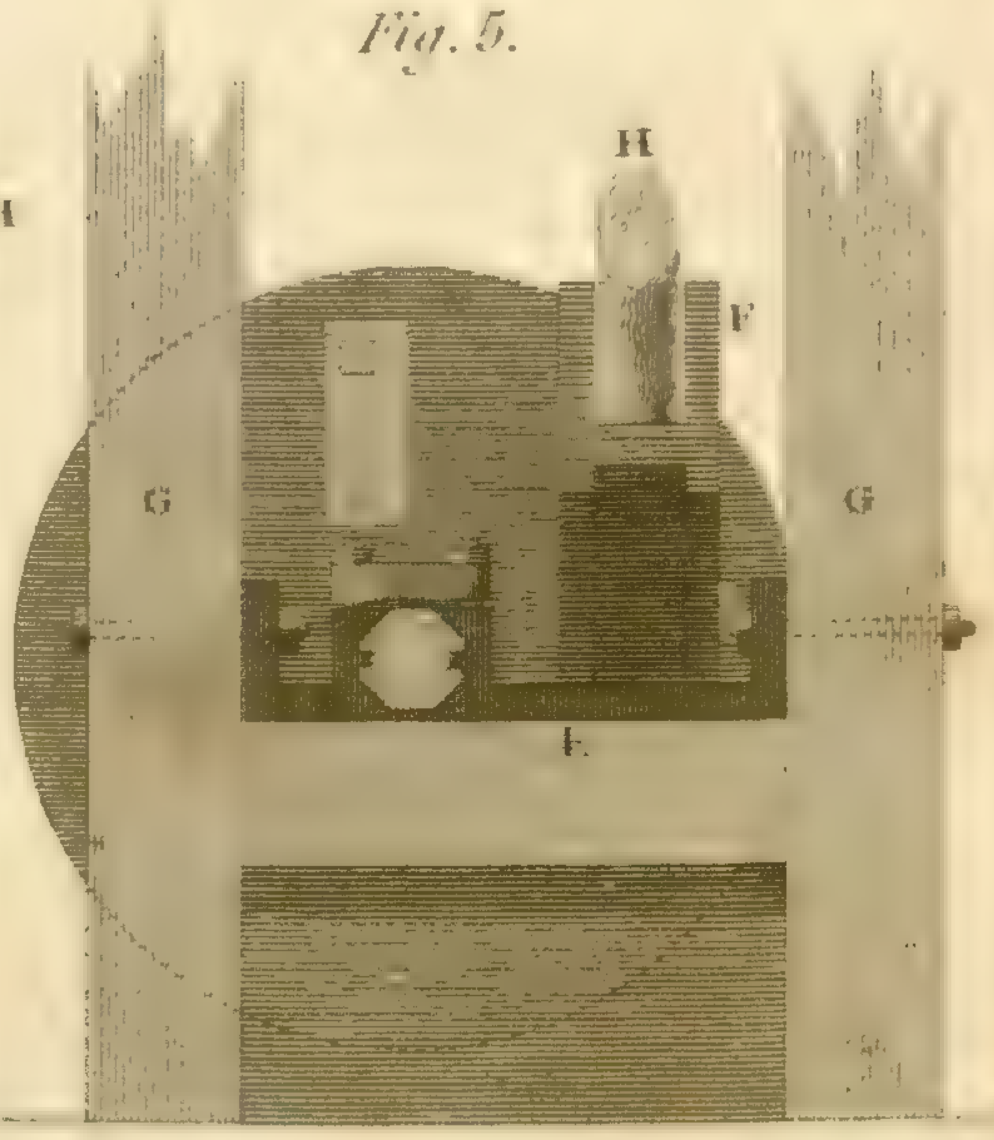
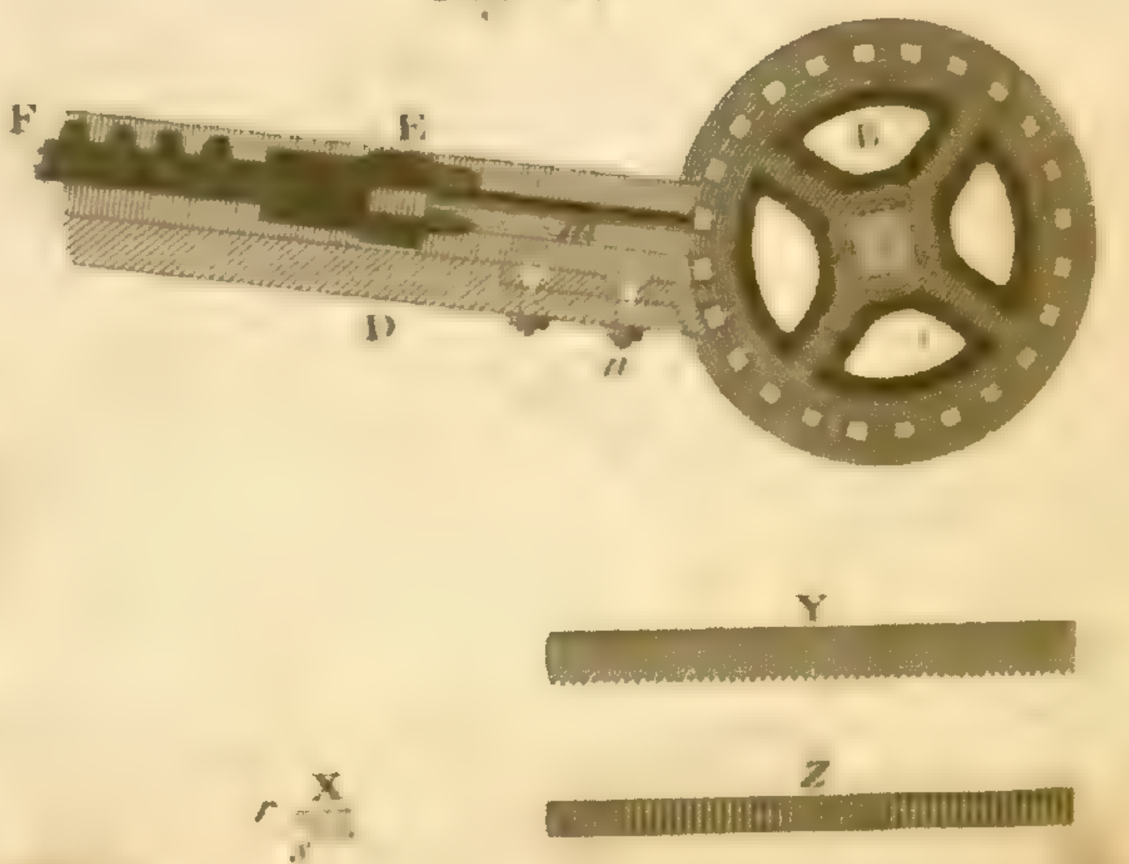


Fig. 3.



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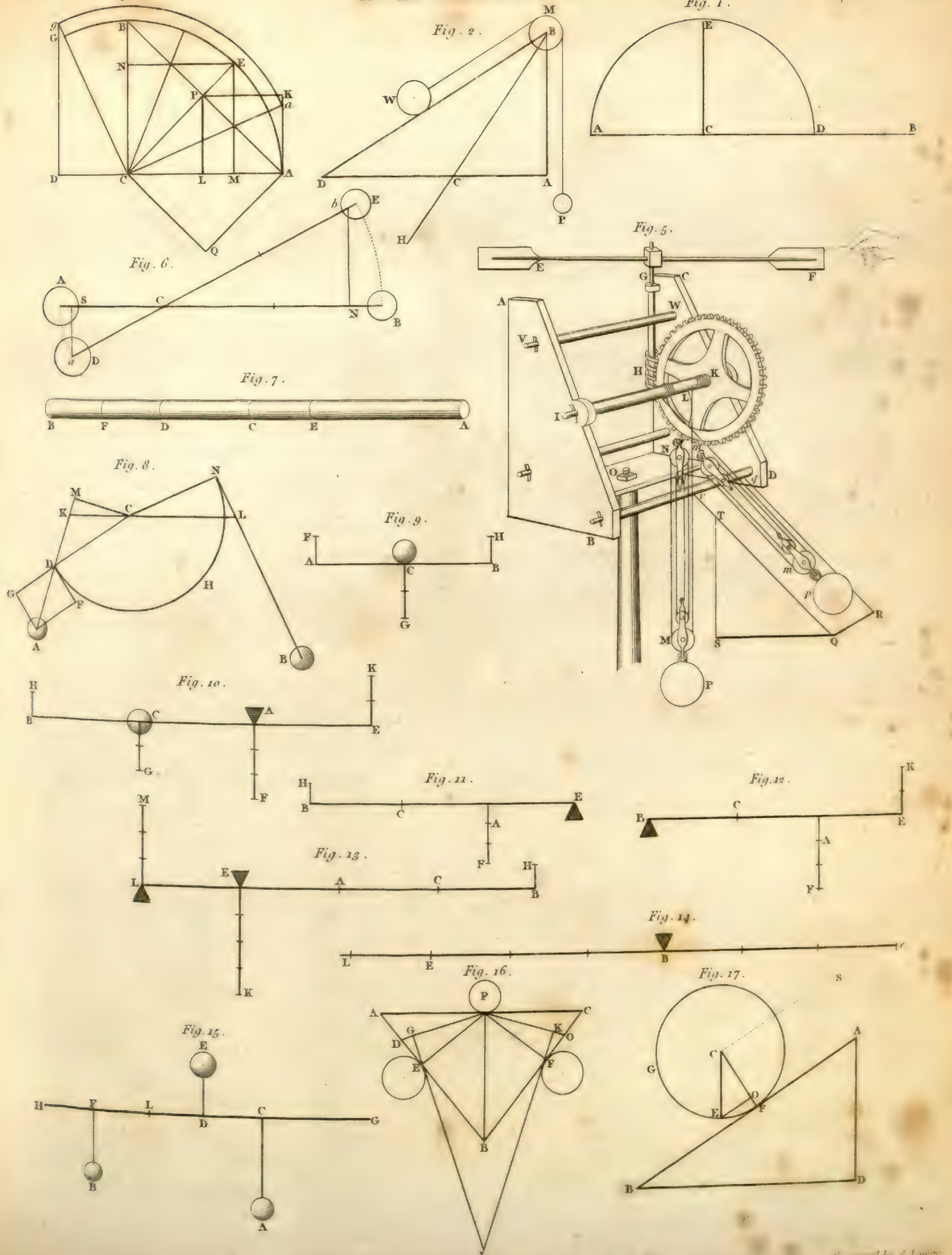
Lowry sculp.

MECHANICS

MECHANICAL POWERS &c.



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Engraved by W. Lowry.

Fig. 1.

View of a Common Breast Mill.

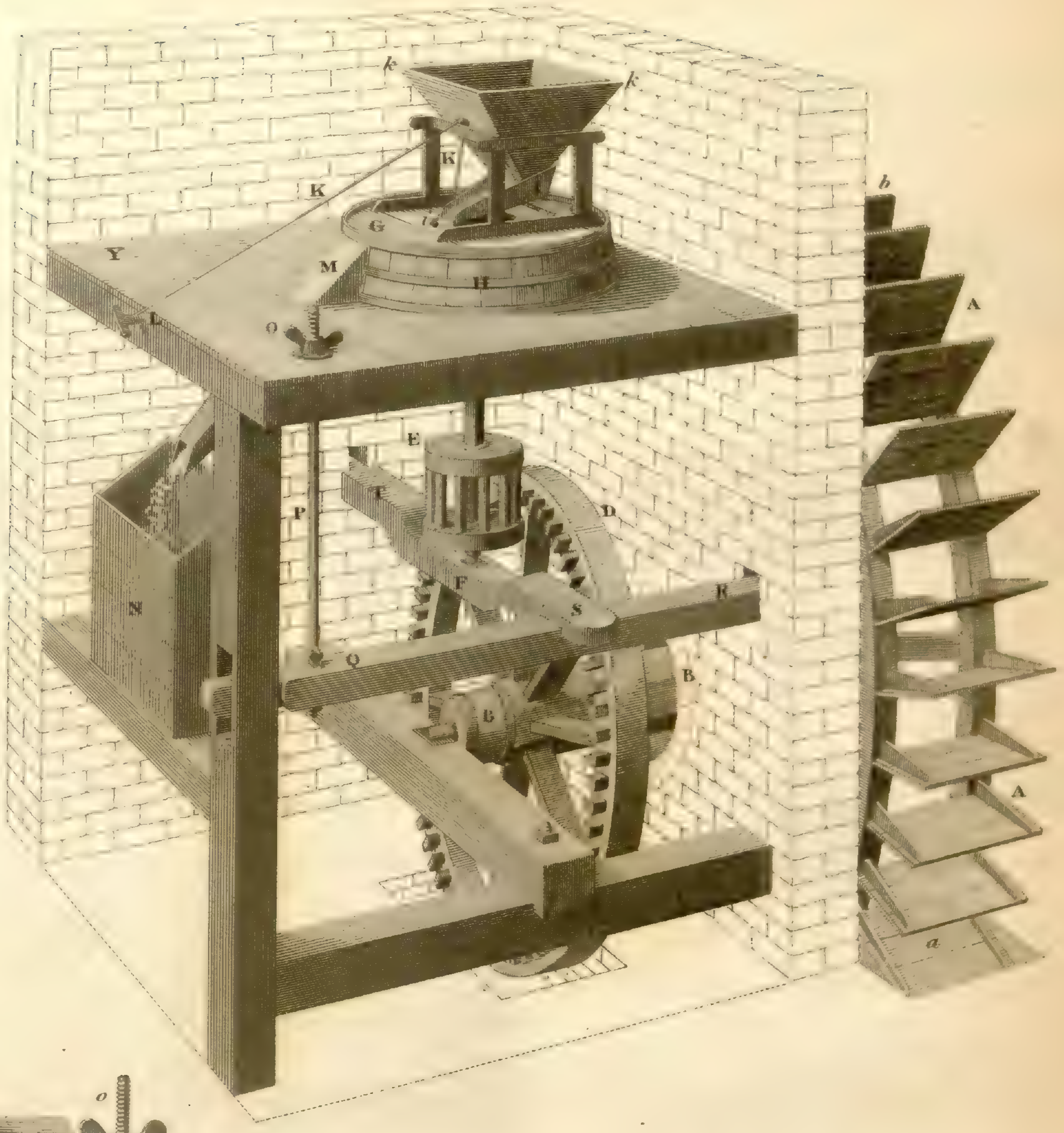
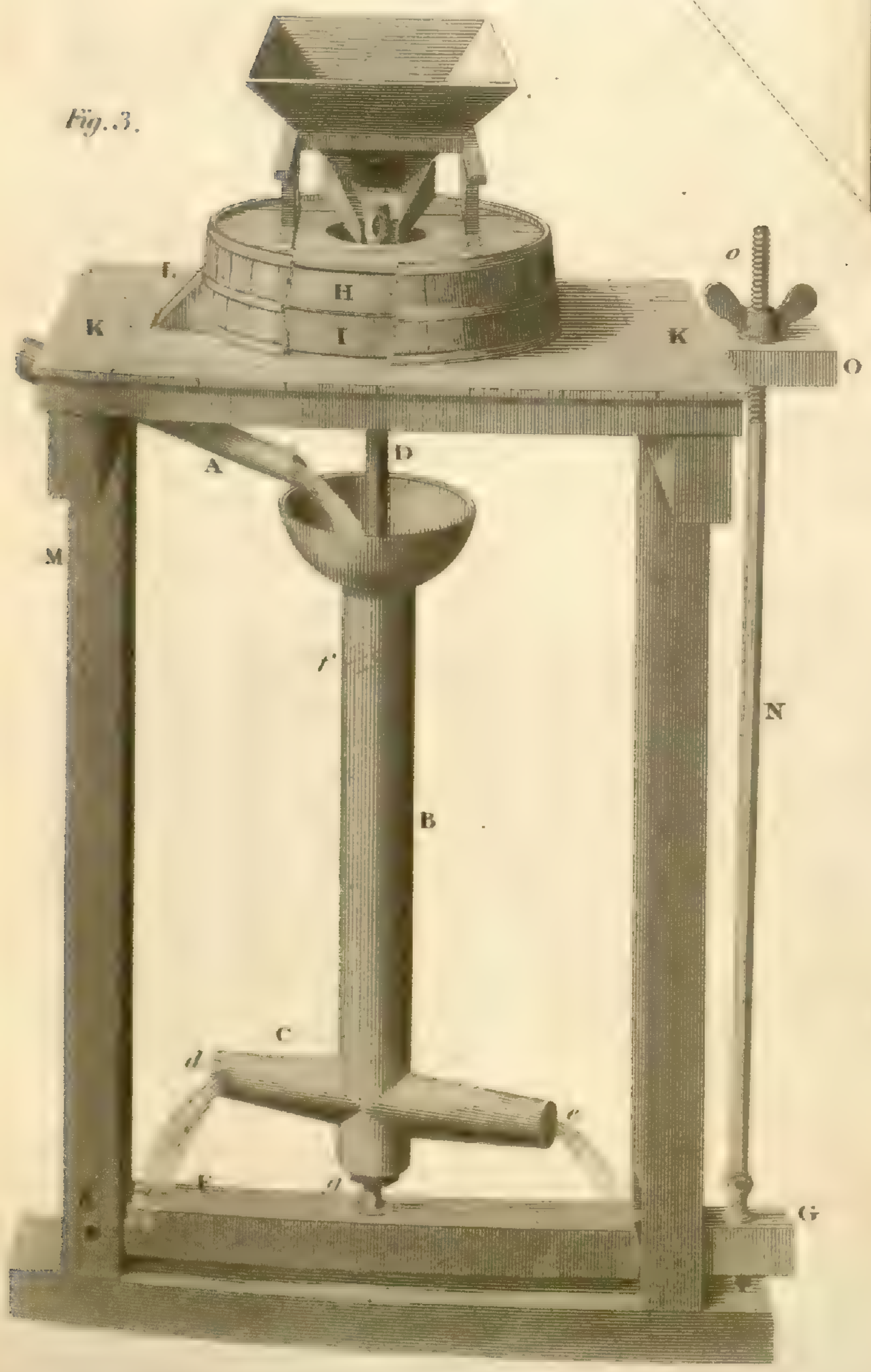


Fig. 2.

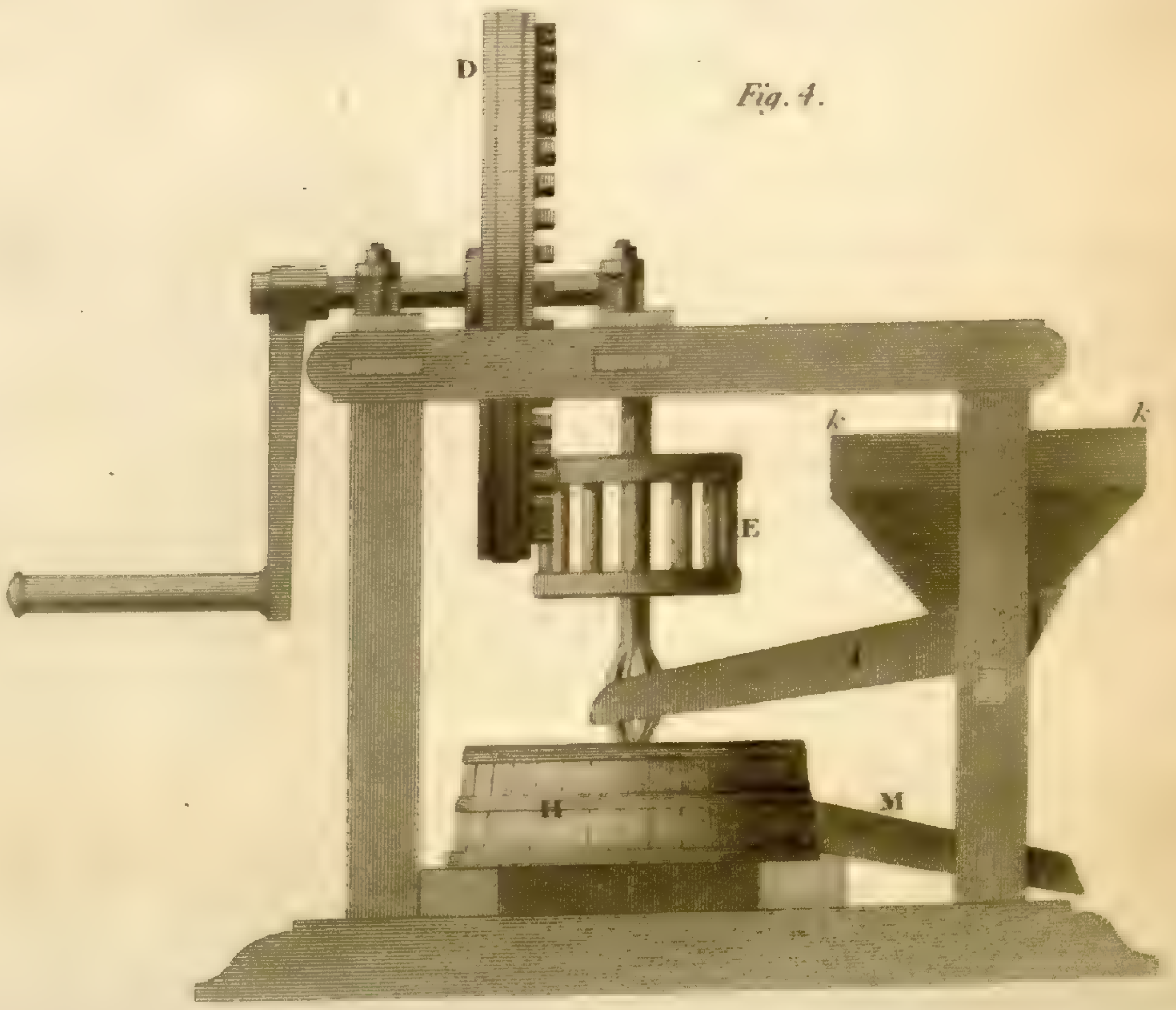
Dr. Barker's Mill.

Fig. 3.



Portative or Hand Mill.

Fig. 4.



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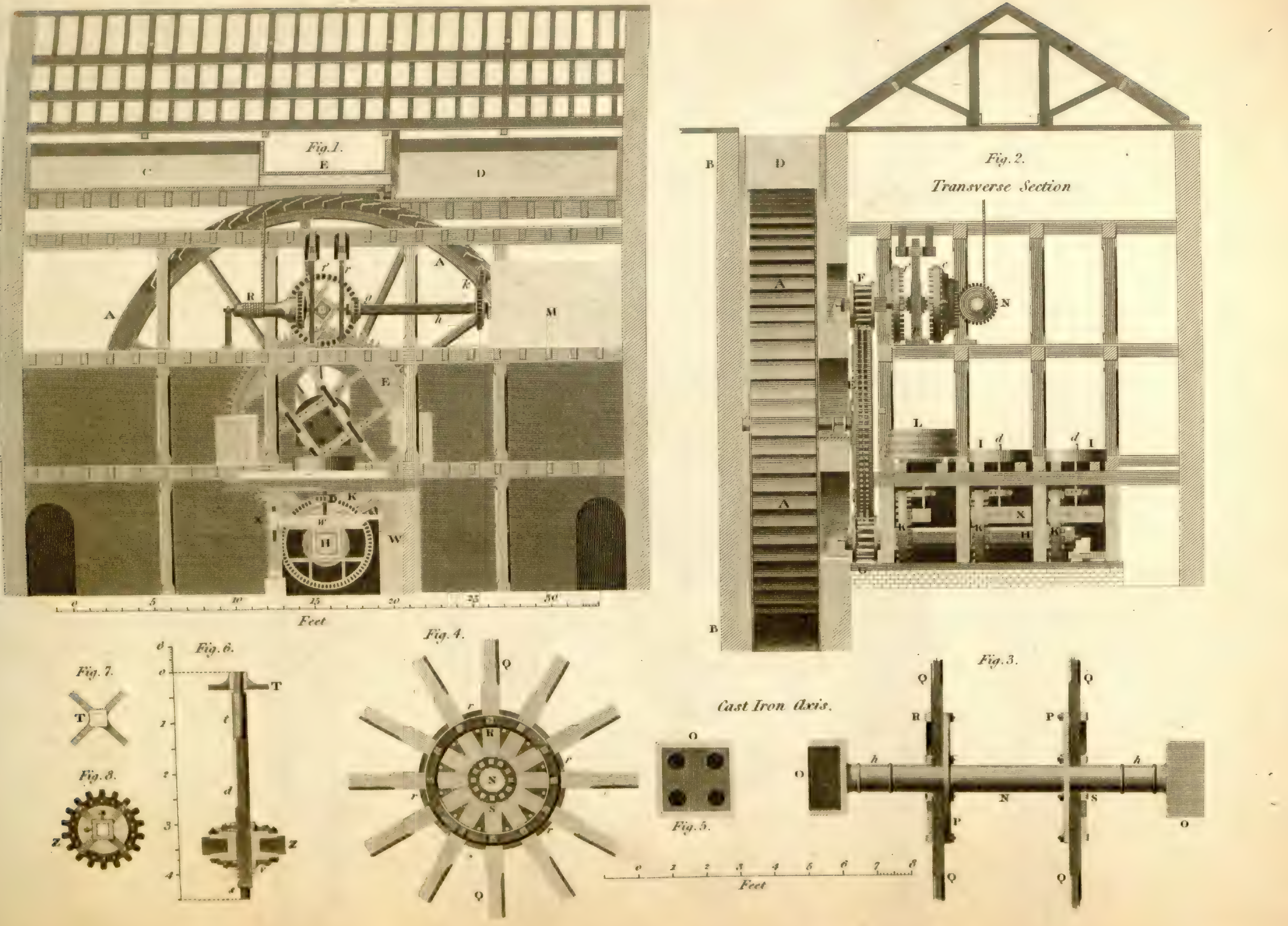
MECHANICS,

FLOUR MILL.

Designed by J. SMEATON, F.R.S. 1781.

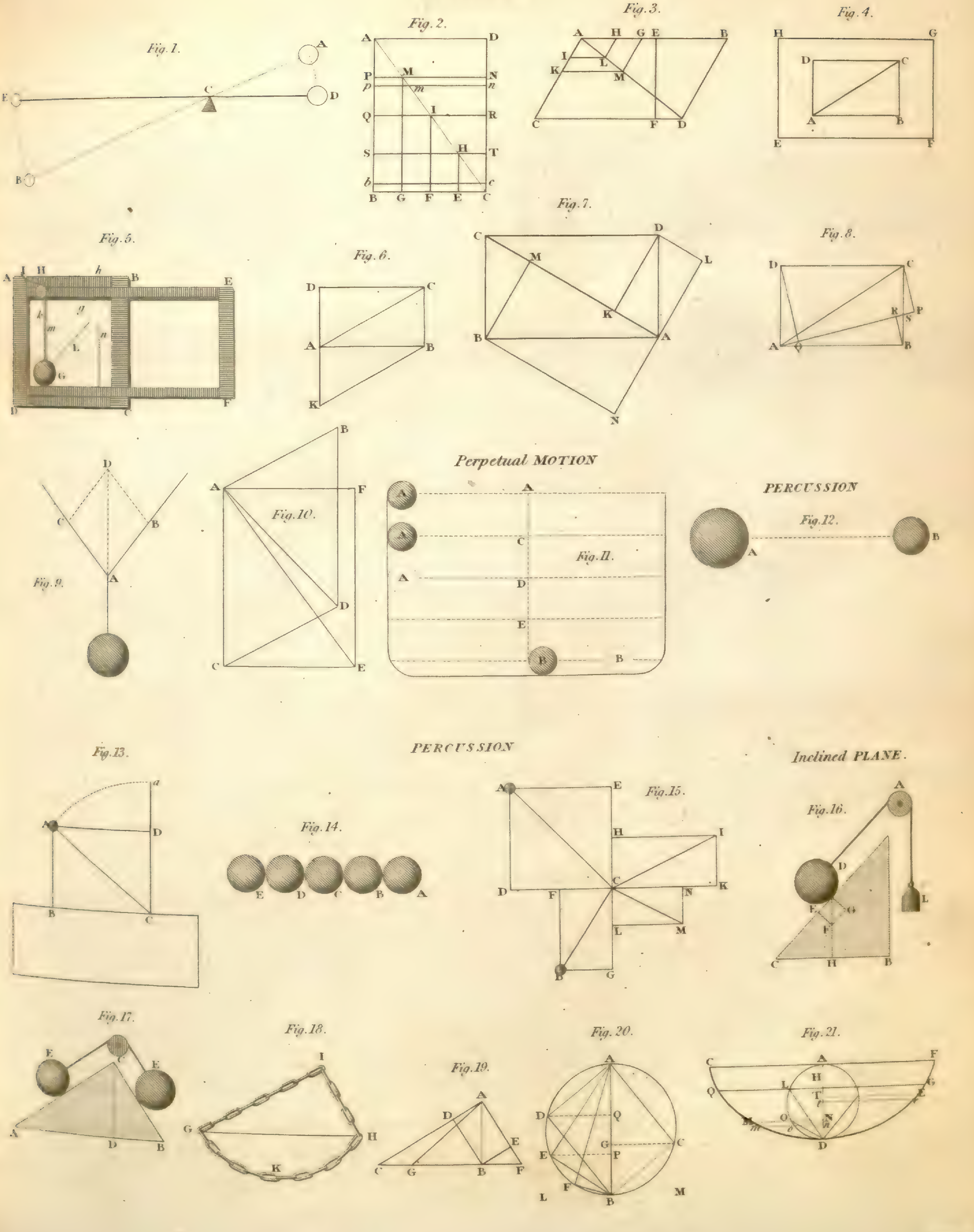


J. Farey del.

Published as the Act directs, 1814, by Longman, Hurst Rees, Orme & Brown, Paternoster Row.

Lowry sculp.

MOTION &c.



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Lowry sc.

COLOUR MILL.

Fig. 2.

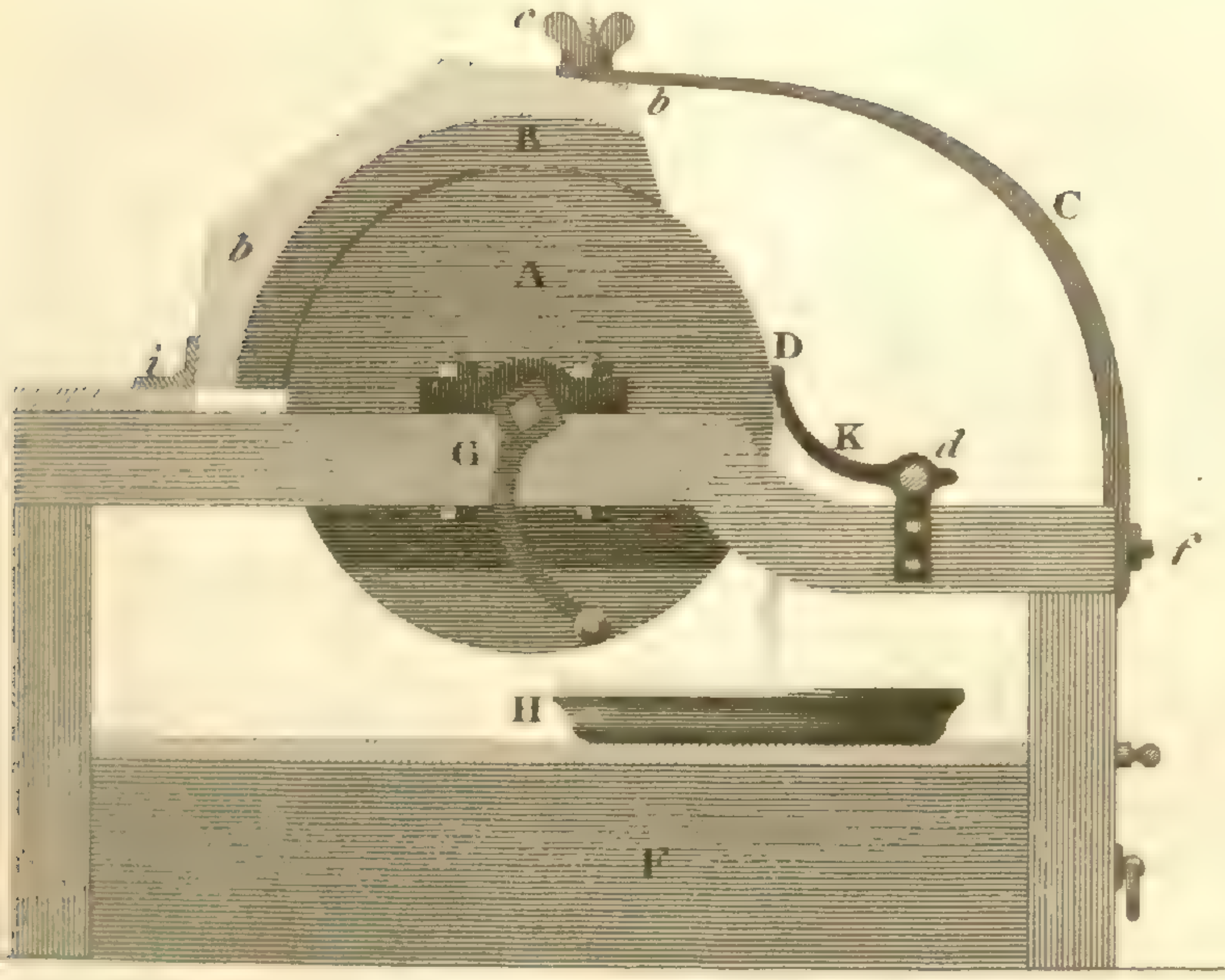


Fig. 1.

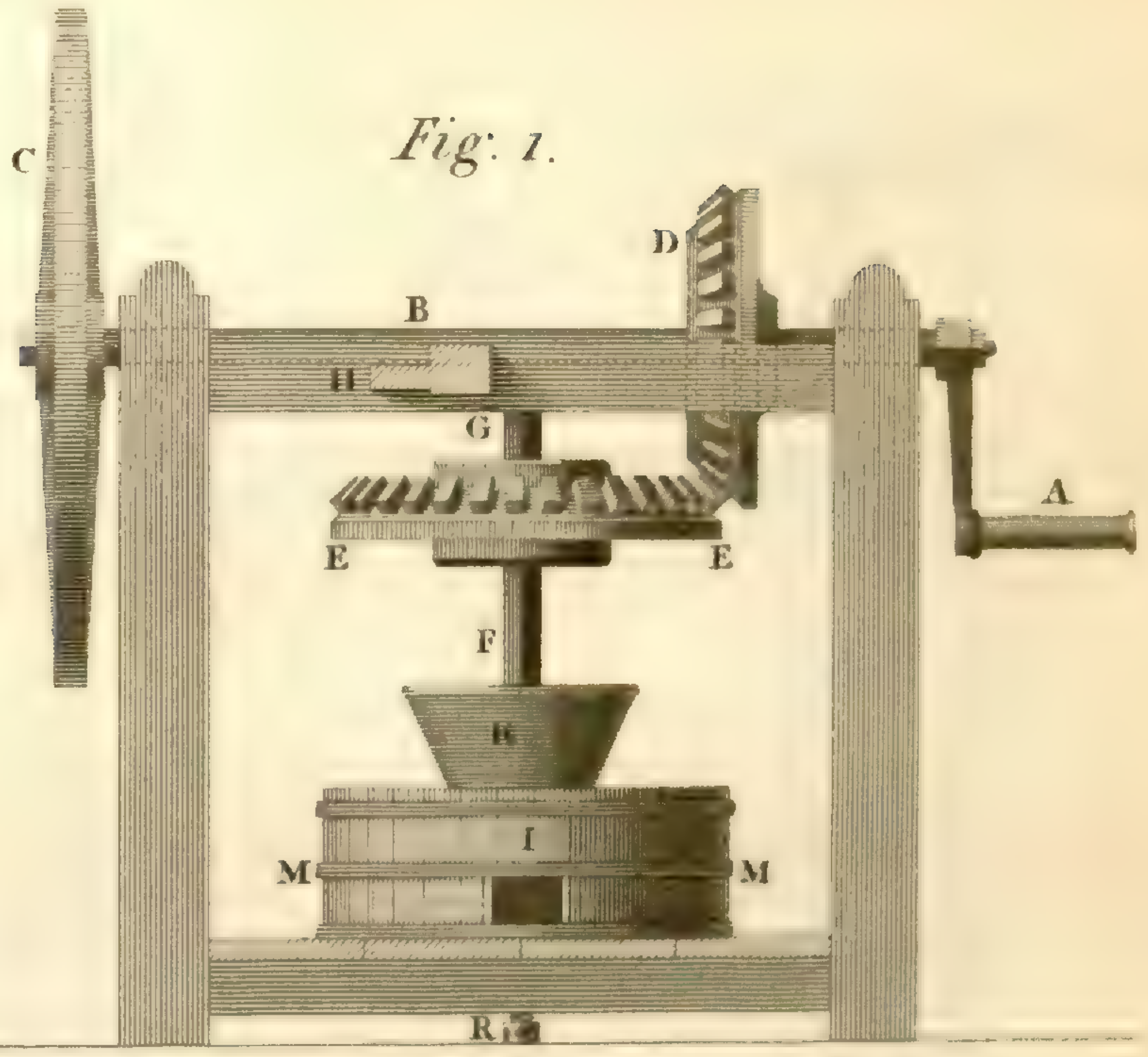


Fig. 5.

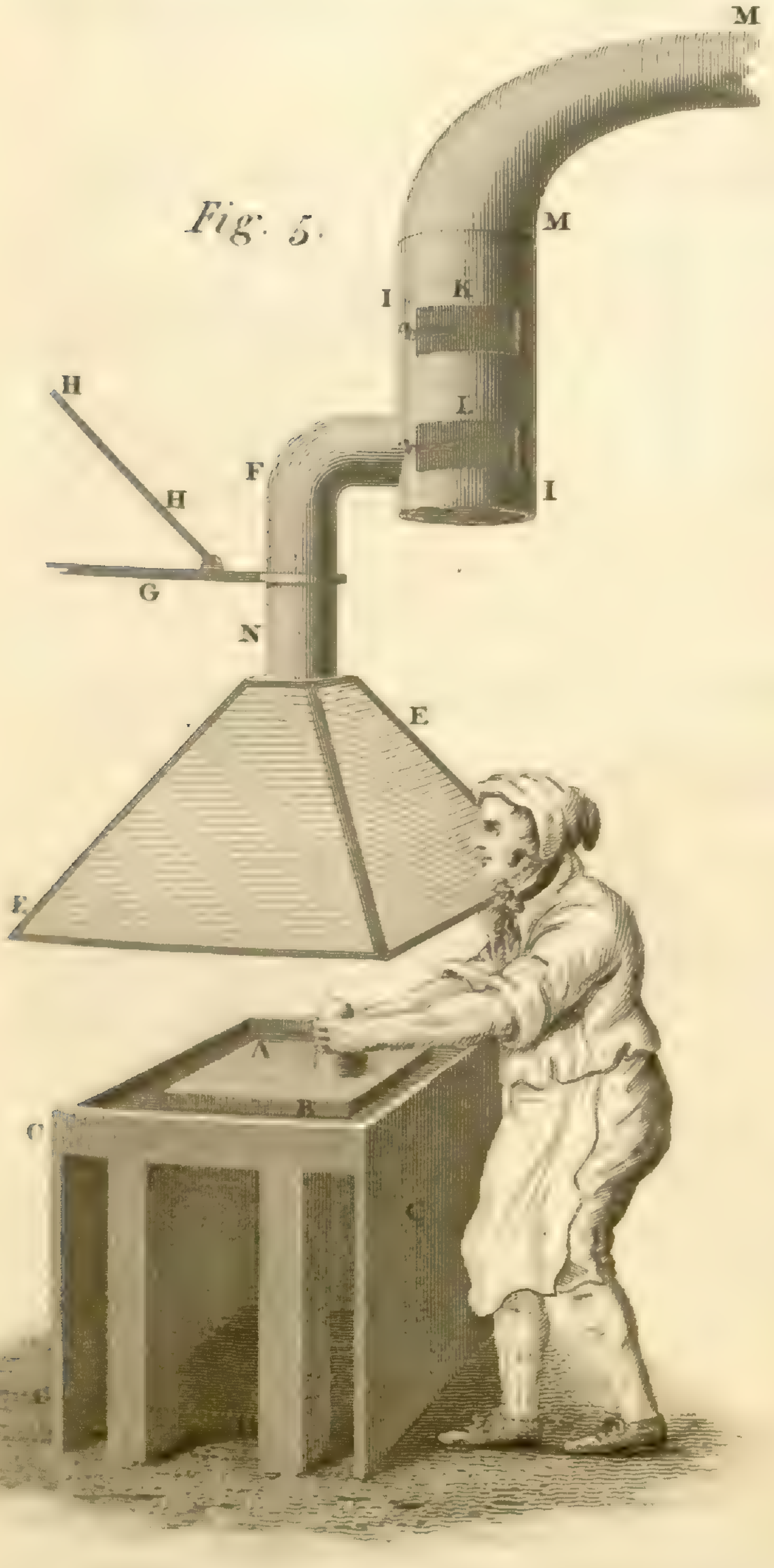


Fig. 4.

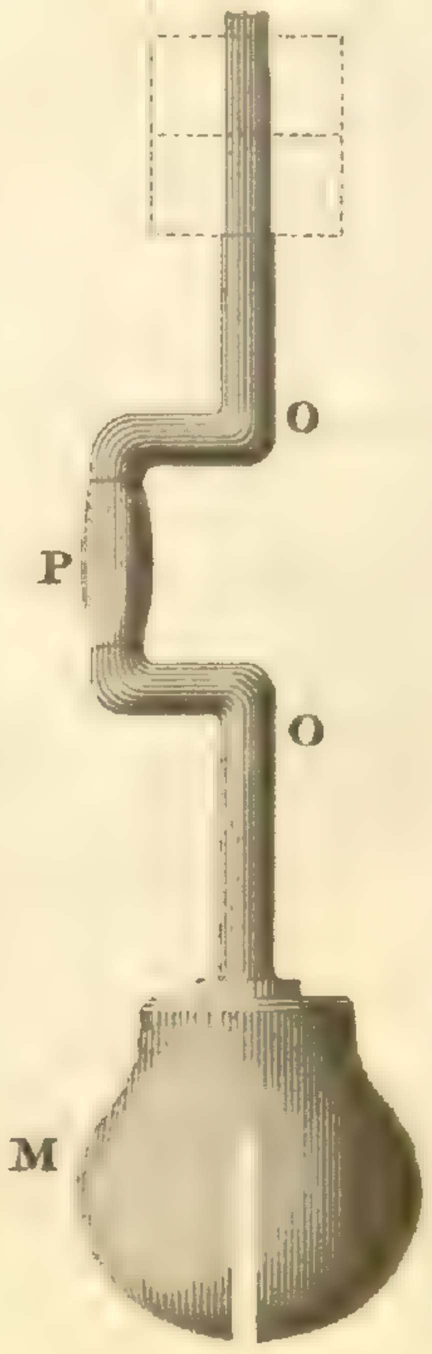


Fig. 3.

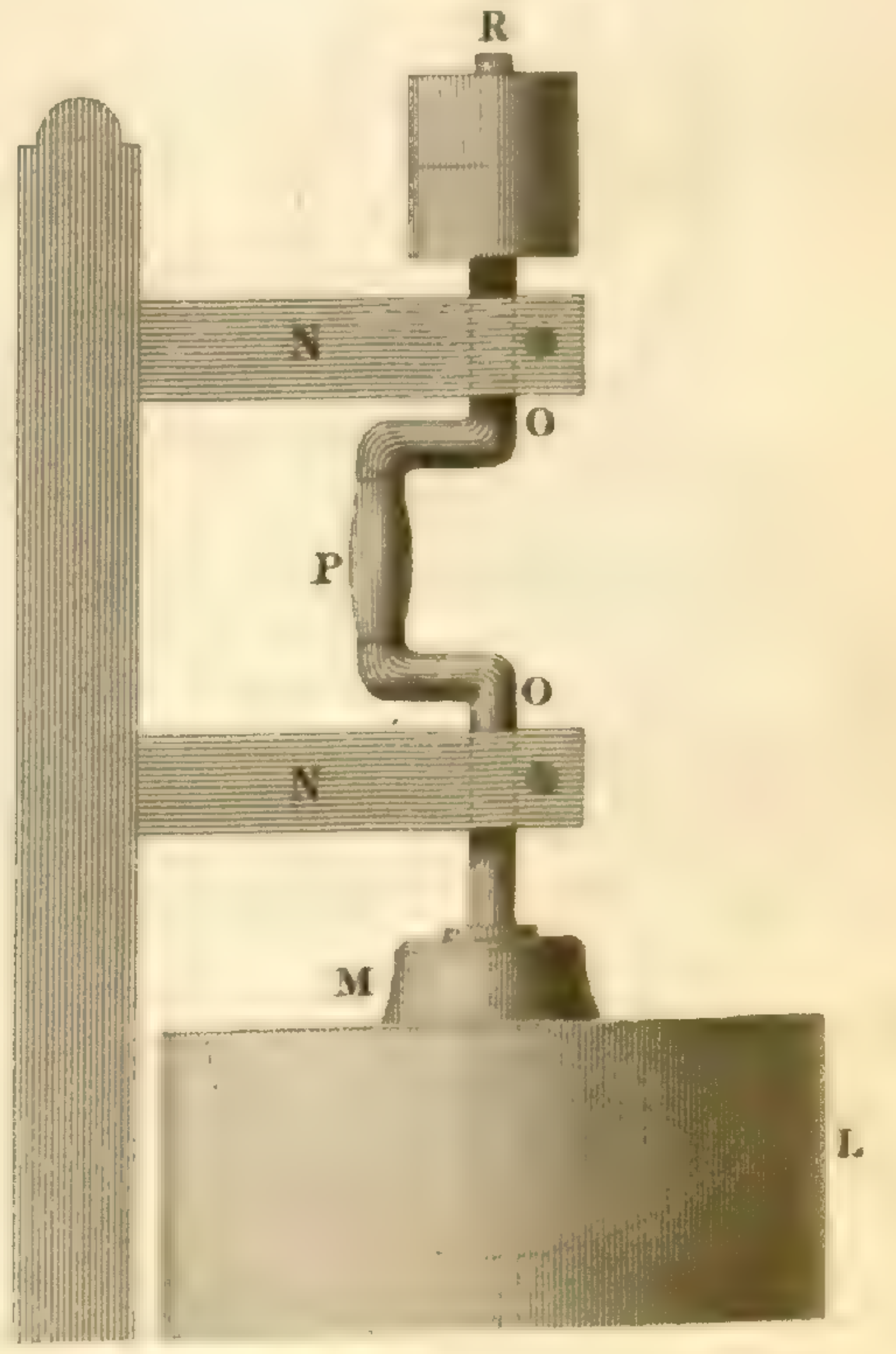
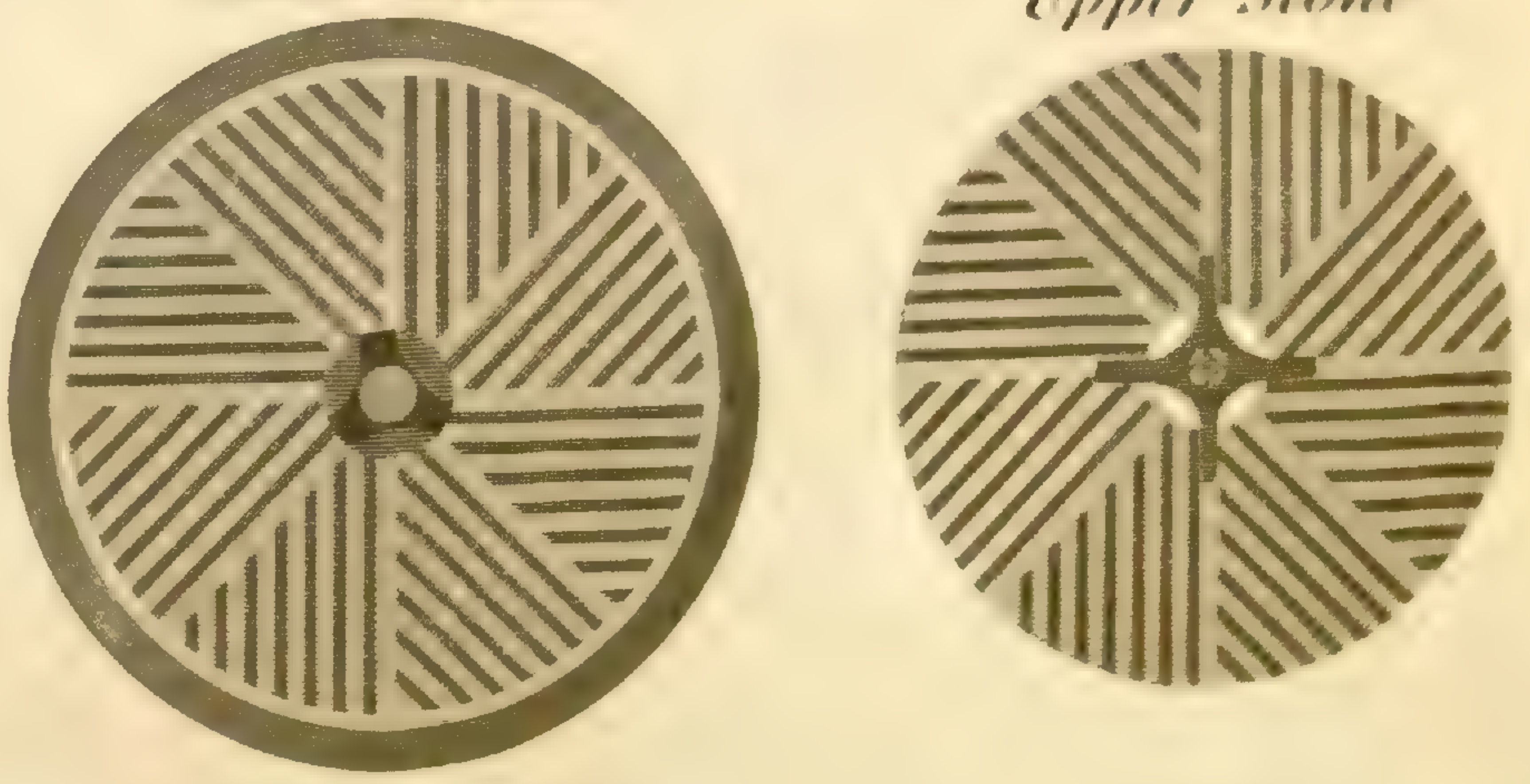


Fig. 6.

Lower Stone *Upper Stone*



J. Farey Jun.r delin.

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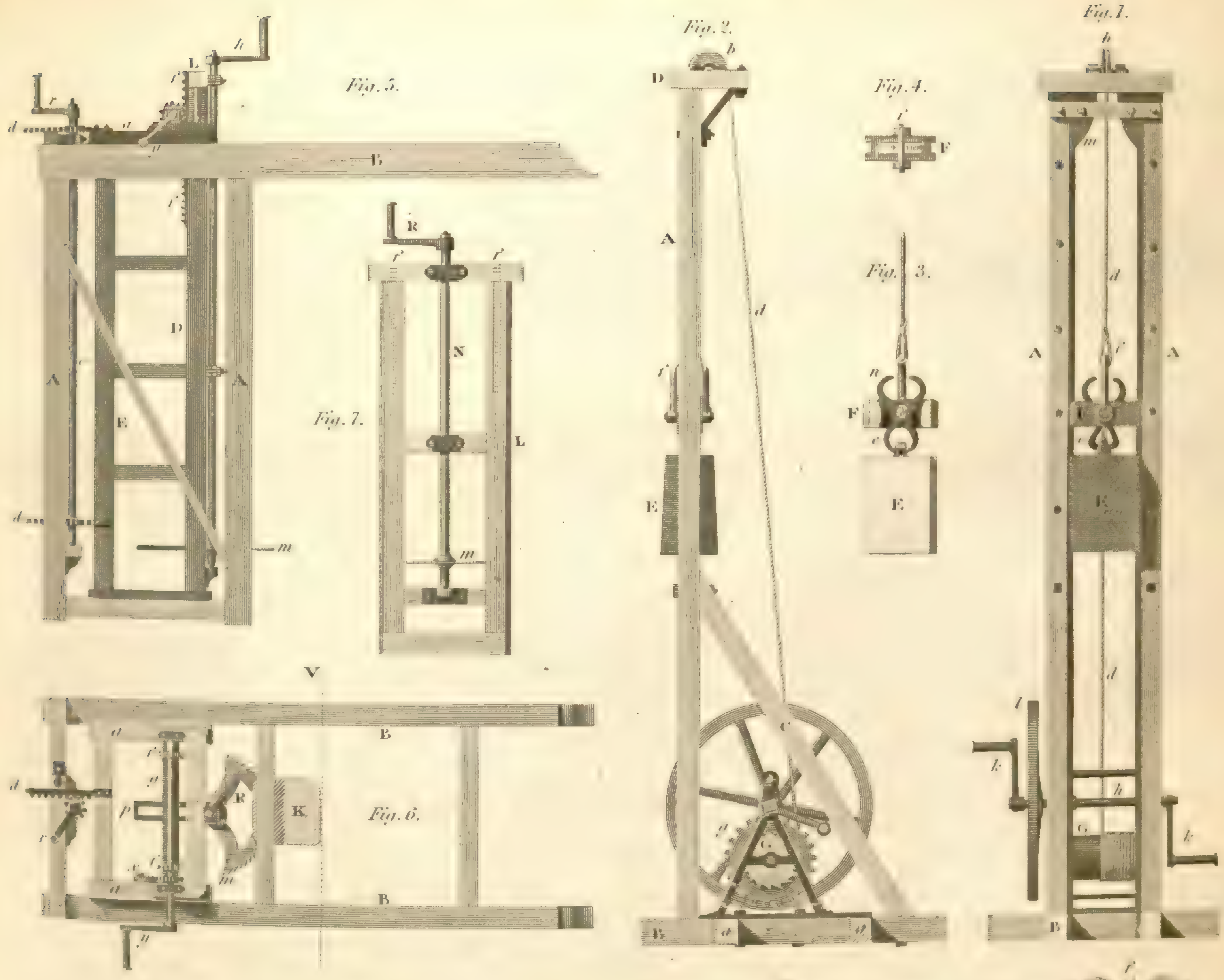
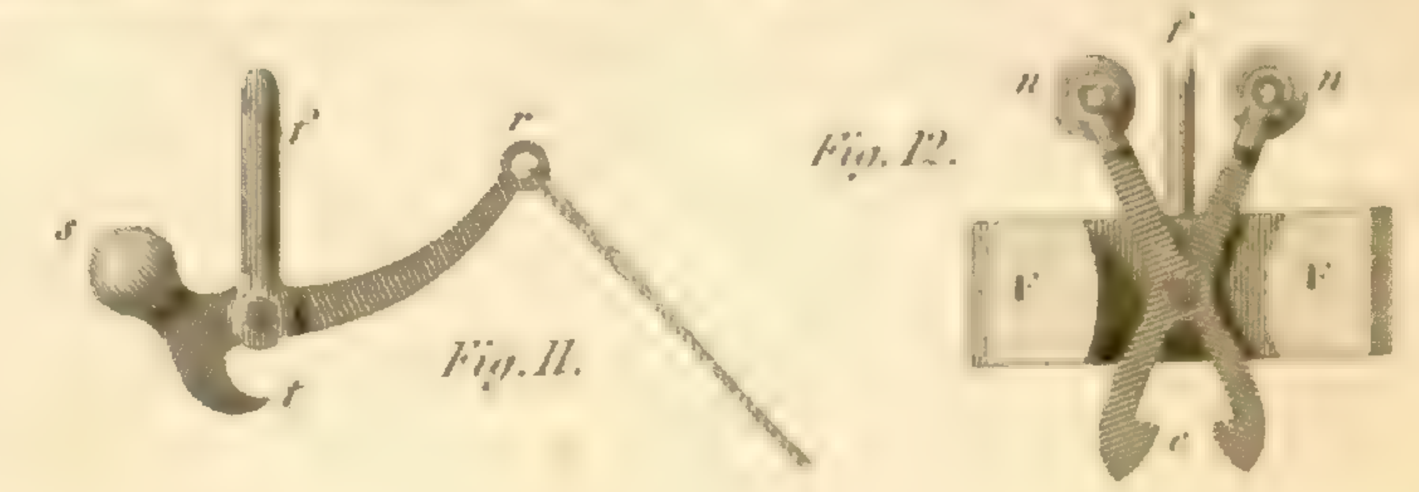
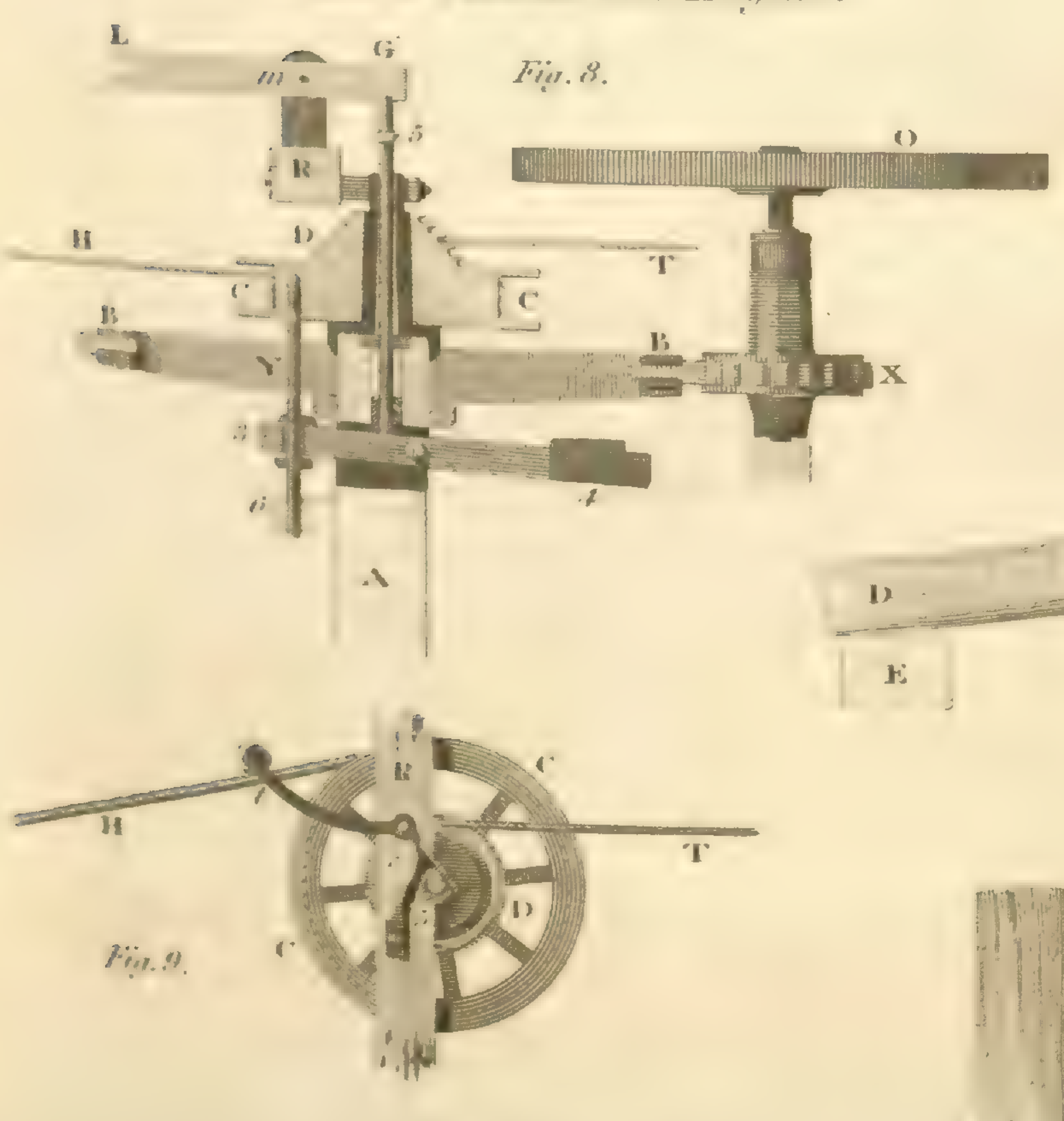
Engraved by W. Lowry.

PILE DRIVING MACHINE.

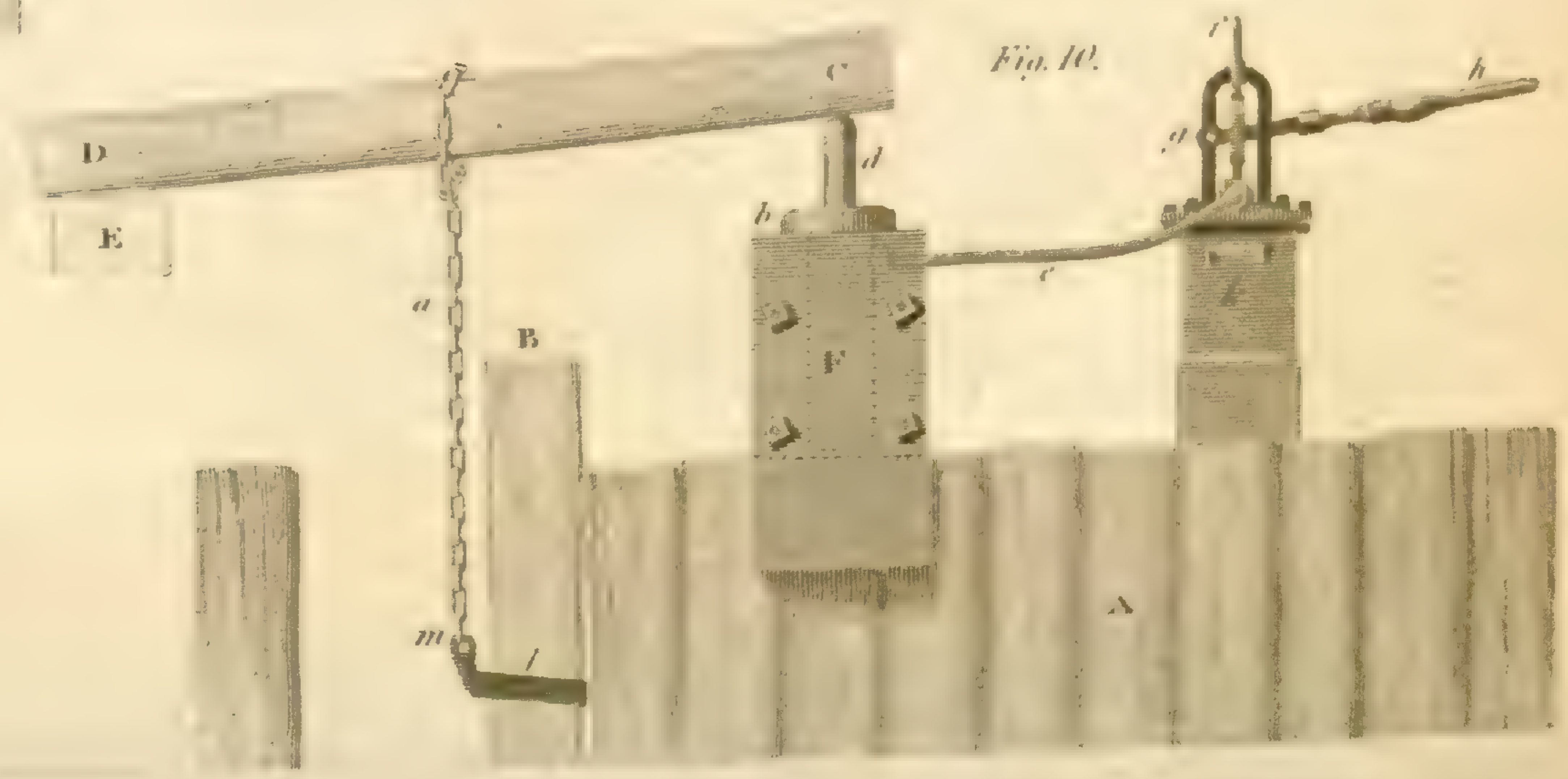




Section of Valoue's Pile Engine.



Mr. Bramah's Machine for Drawing Piles out of the Ground.



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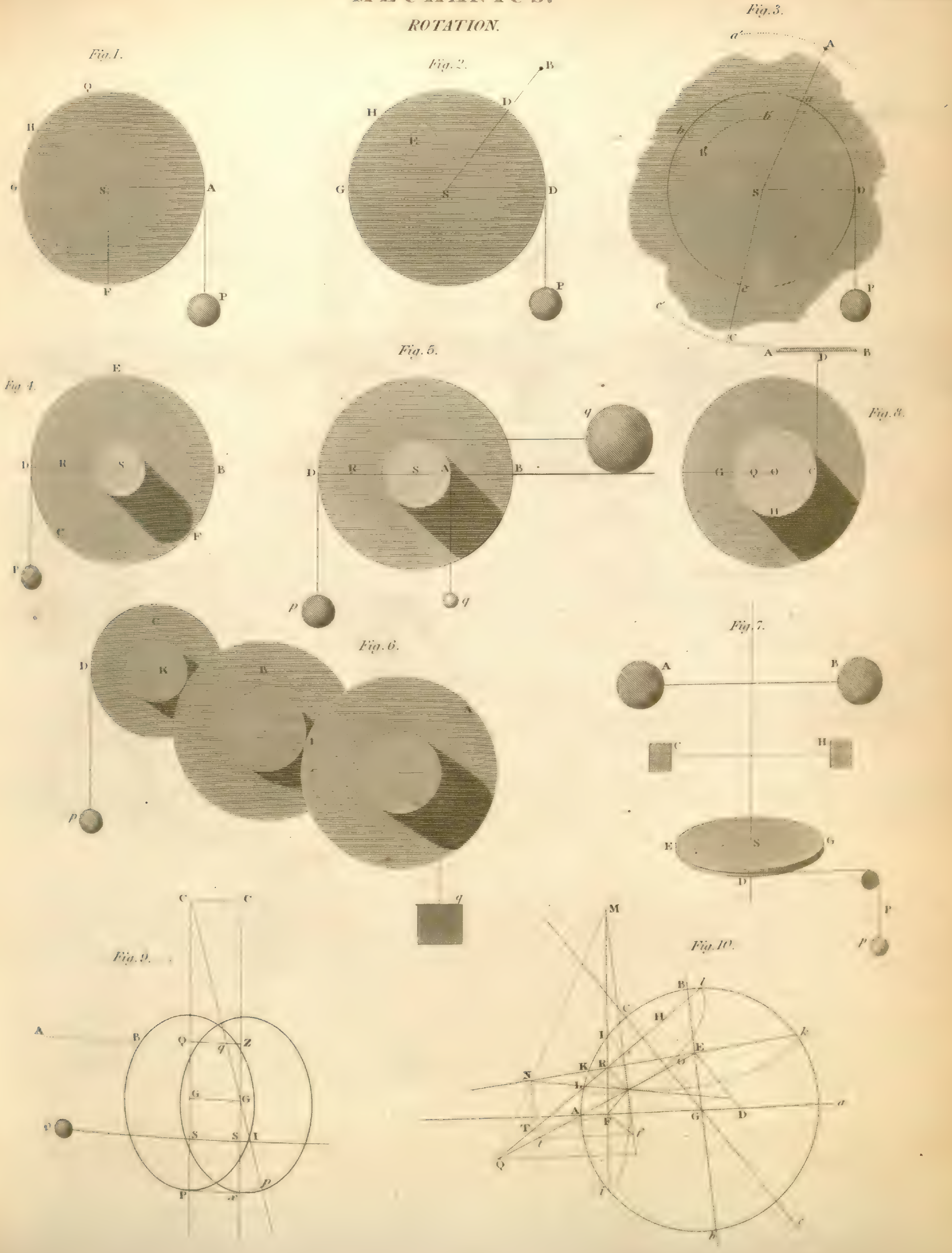
MECHANICS.

ROTATION.



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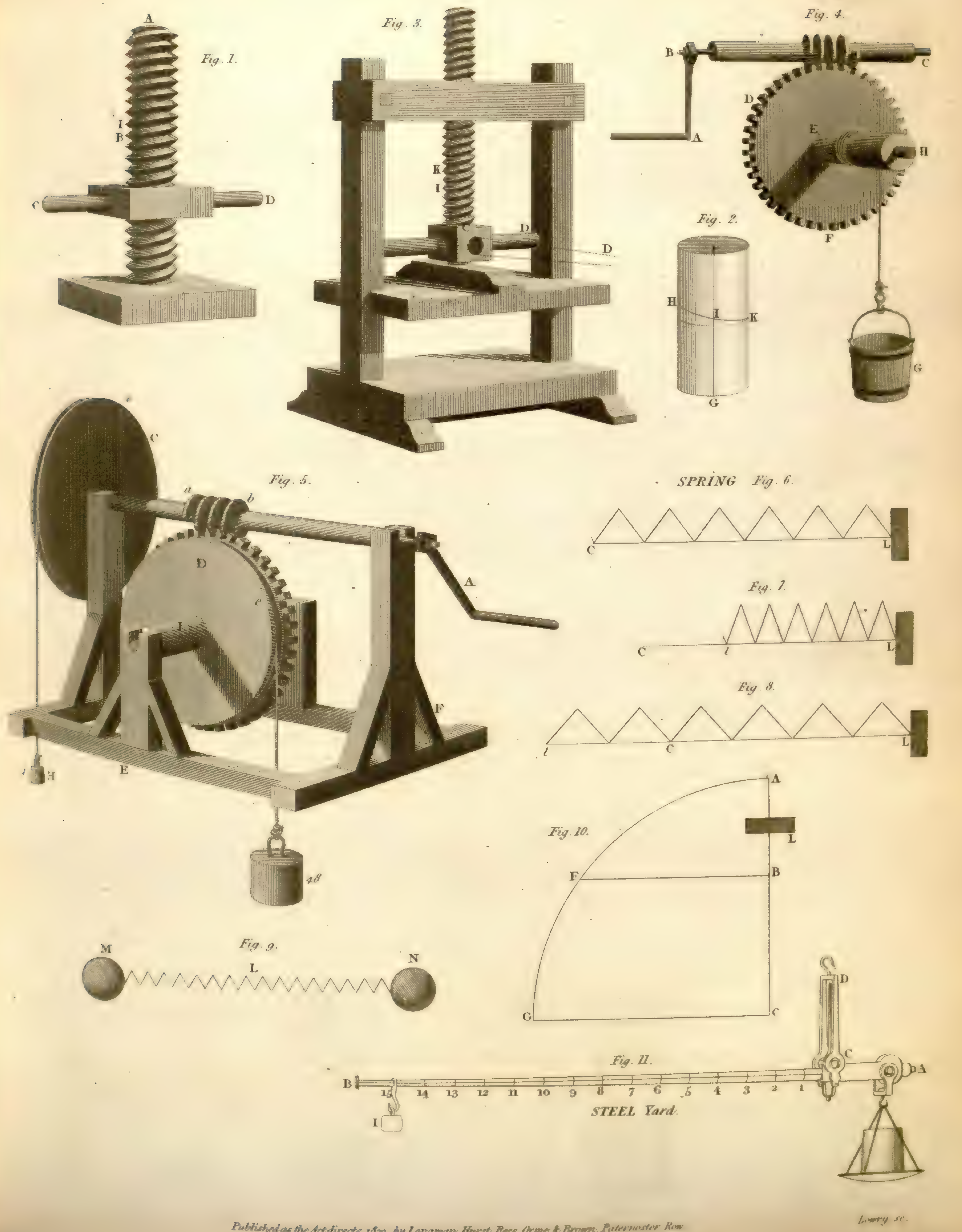
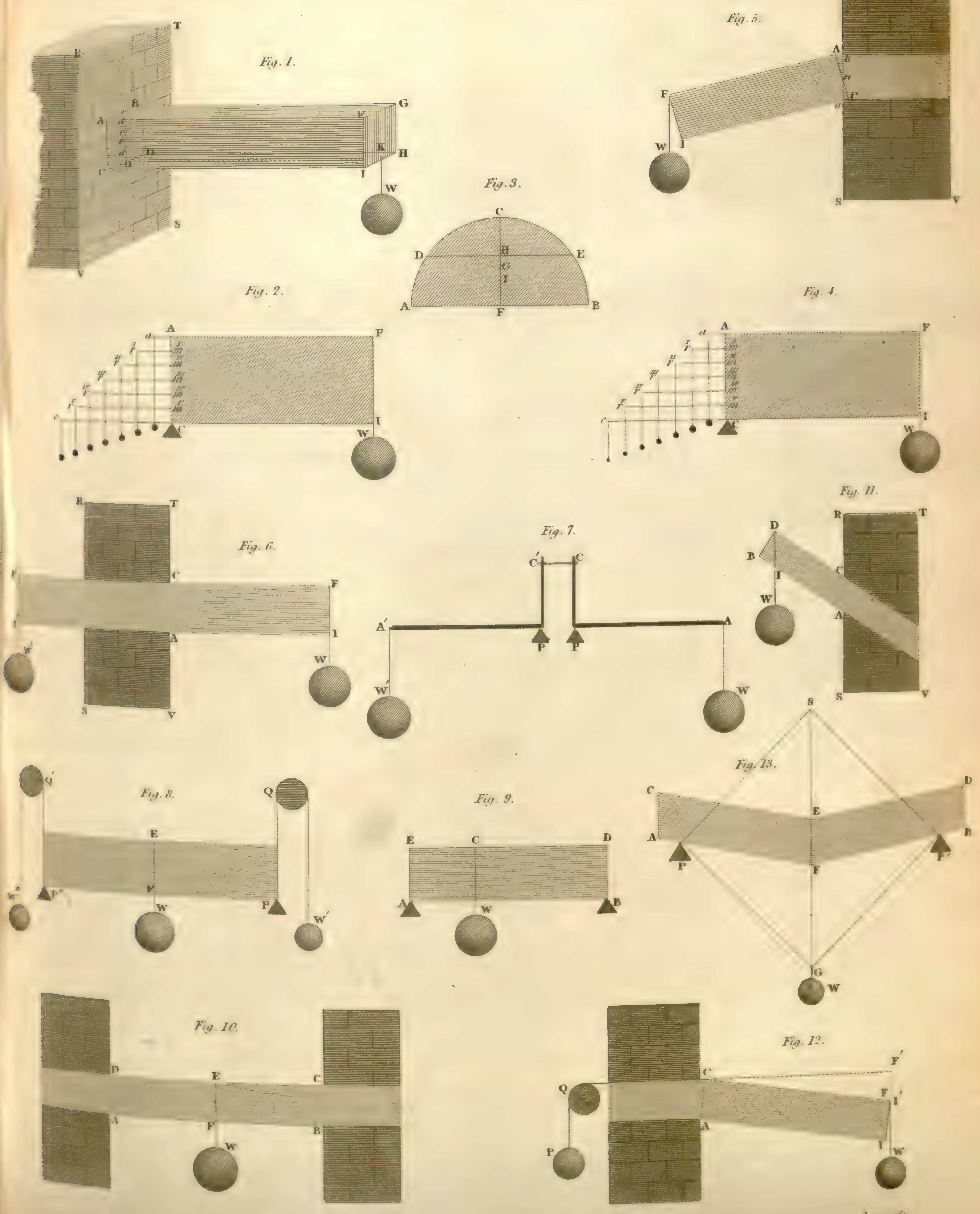
Lowry sculp.



Published as the Act directs, 1820, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry sc.

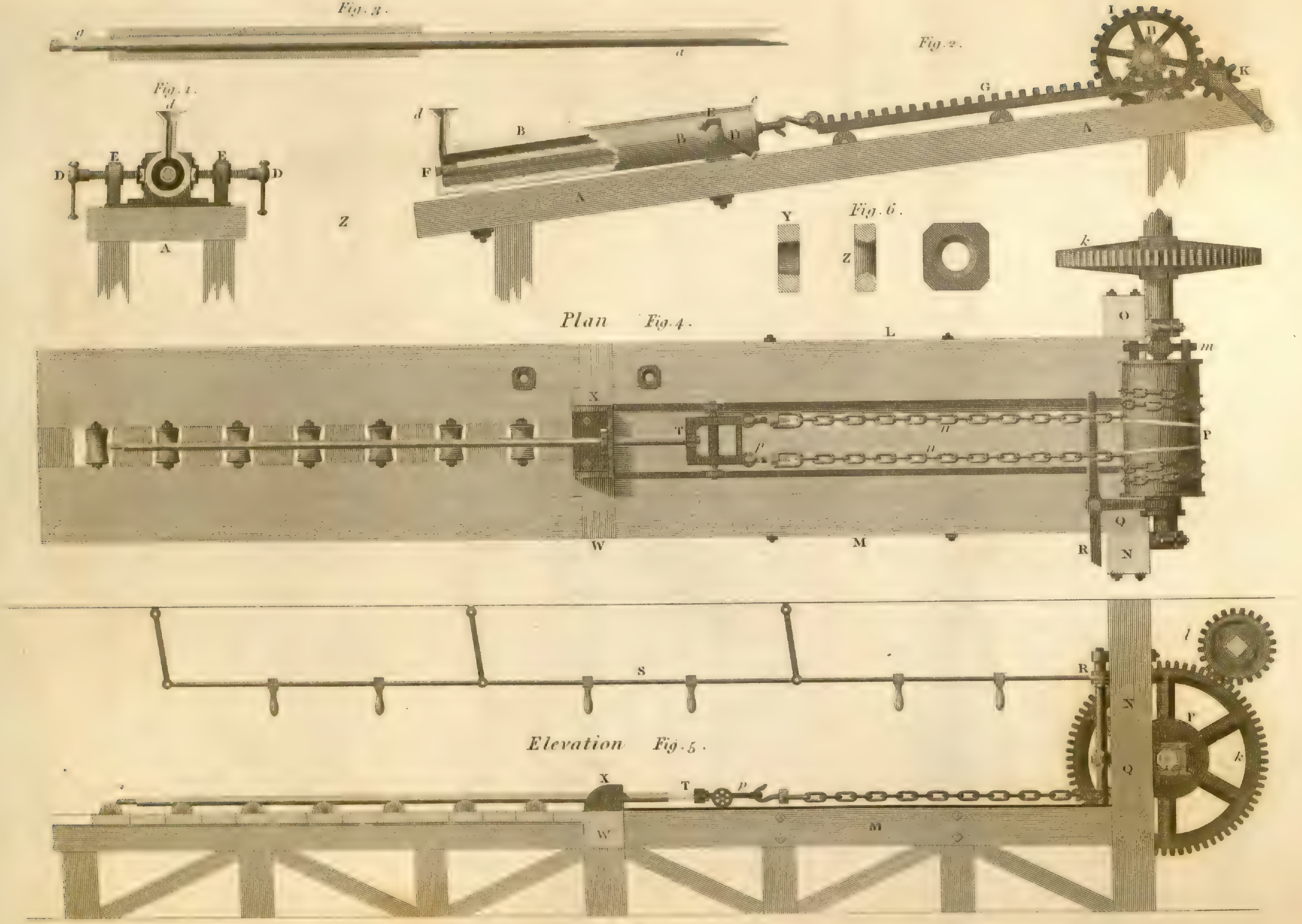
STRENGTH OF MATERIALS.



Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry Sc.

Machines for casting and Drawing Lead Pipes.

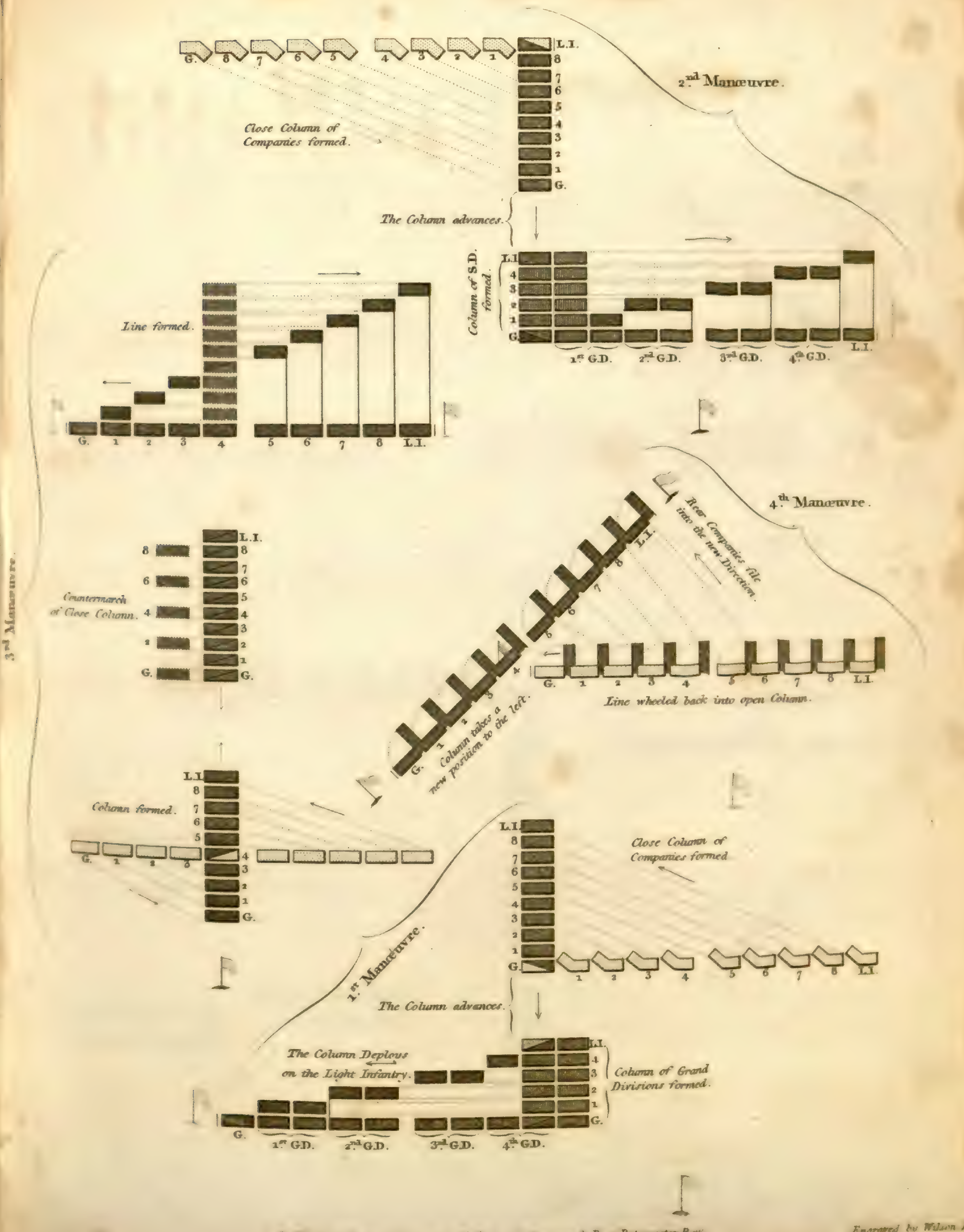


Scale of Feet.

0 1 2 3 4 5 10 15 20

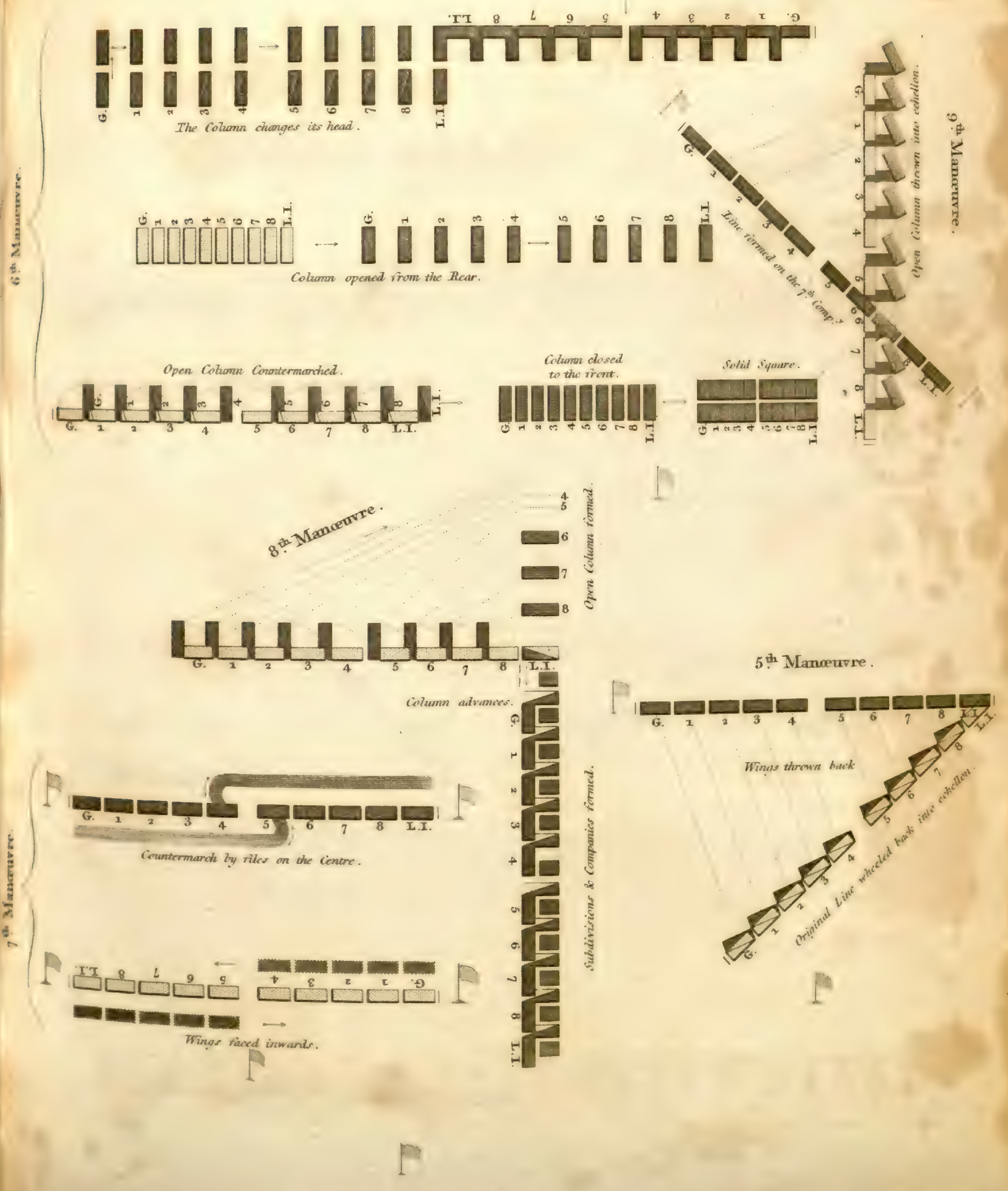
Farey delin. Published as the Act directs [illegible] by Longman Hurst Rees Orme & Brown Paternoster Row. Engraved by W. Lowry.

MILITARY MANŒUVRES.



Published as the Act directs, Augst. 1st. 1804, by Longman & Rees, Paternoster Row.

Engraved by Wilson Lowry

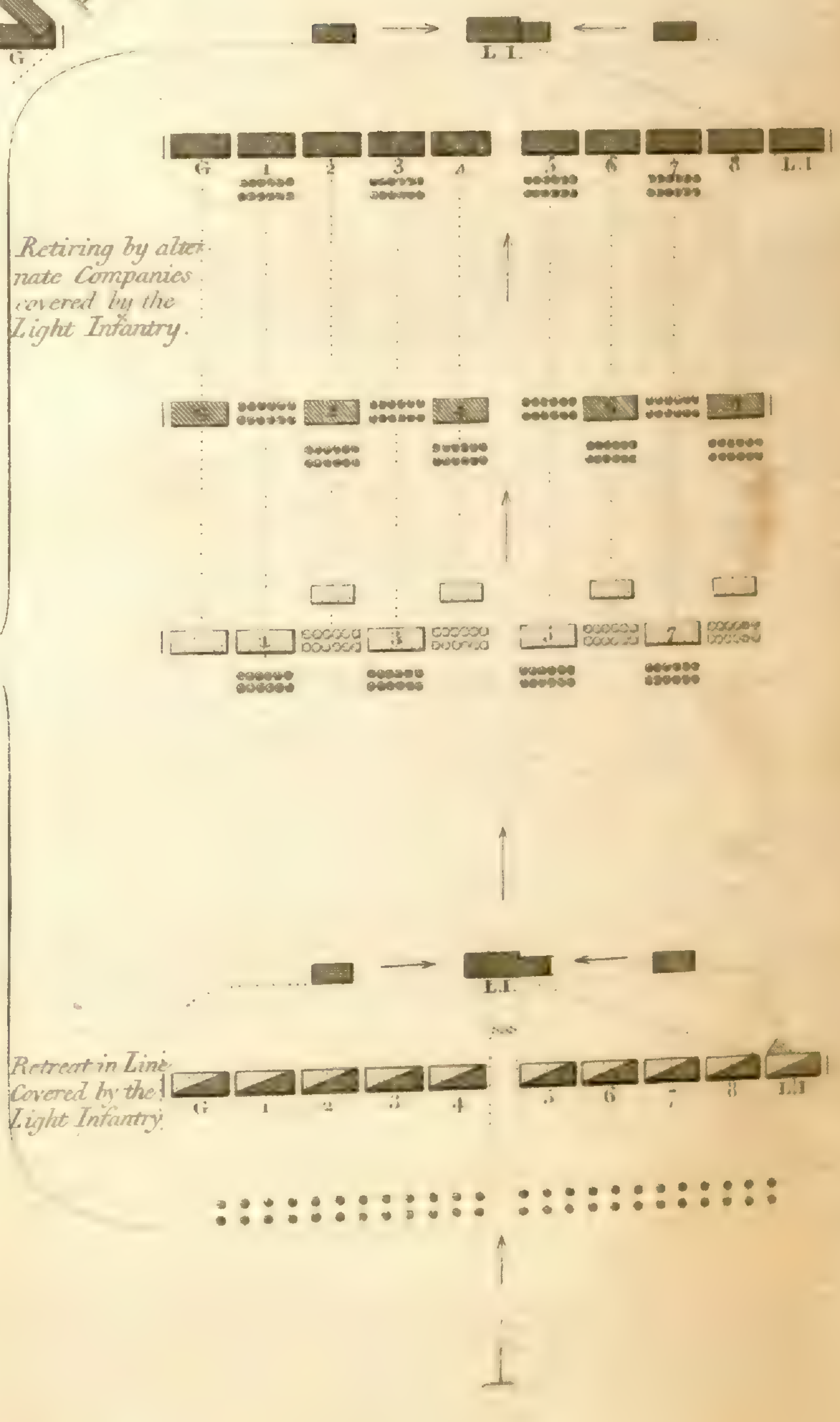


Published as the Act directs, Augst. 1st. 1804. by Longman & Rees, Paternoster Row. Engraved by Wilson Lowry.

MILITARY MANŒUVRES.

13th Manœuvre.

12th Manœuvre.



10th Manœuvre.

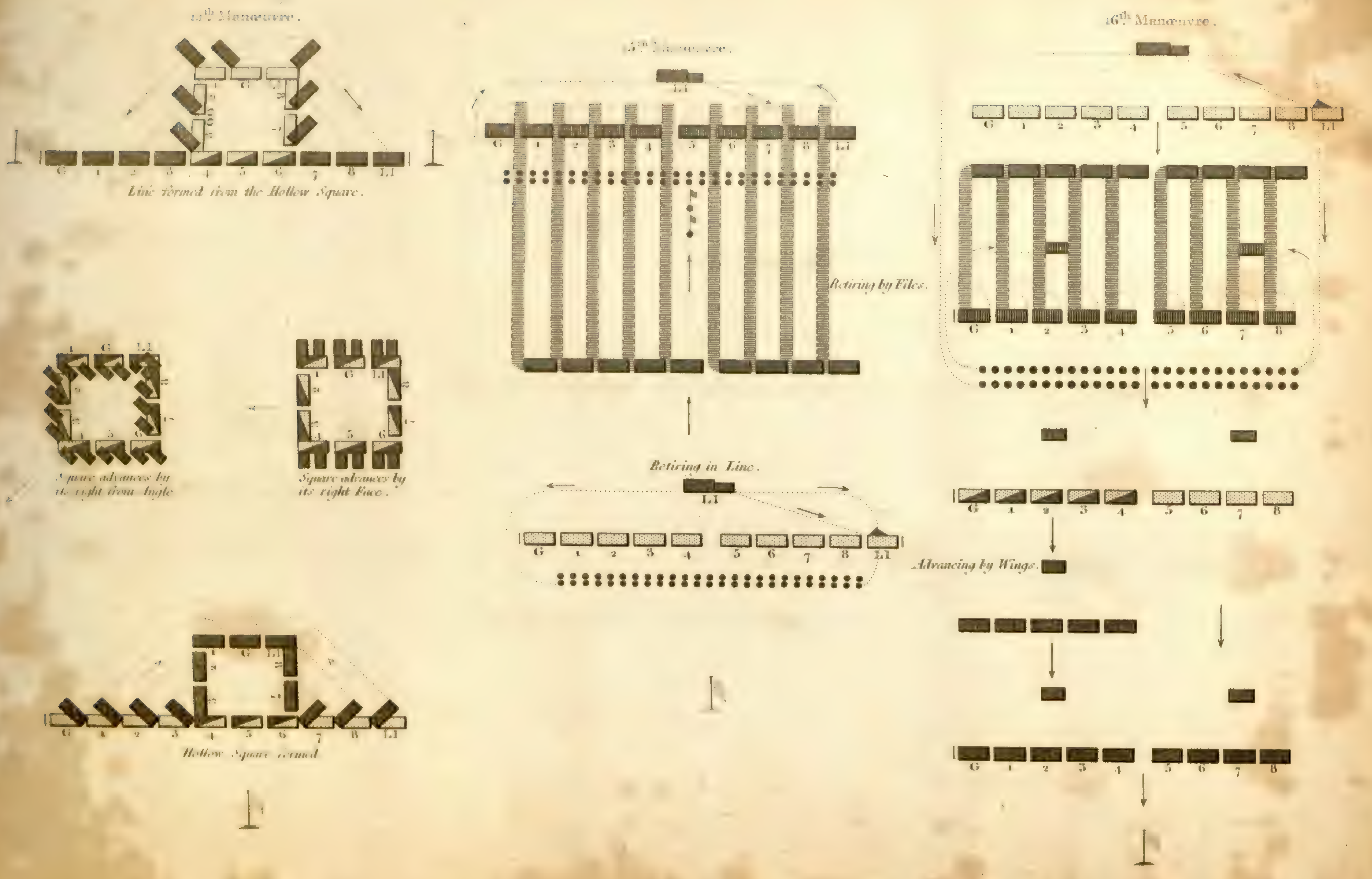
Line formed on the Light Infantry.

11th Manœuvre.

Open Column formed from movement 10th.

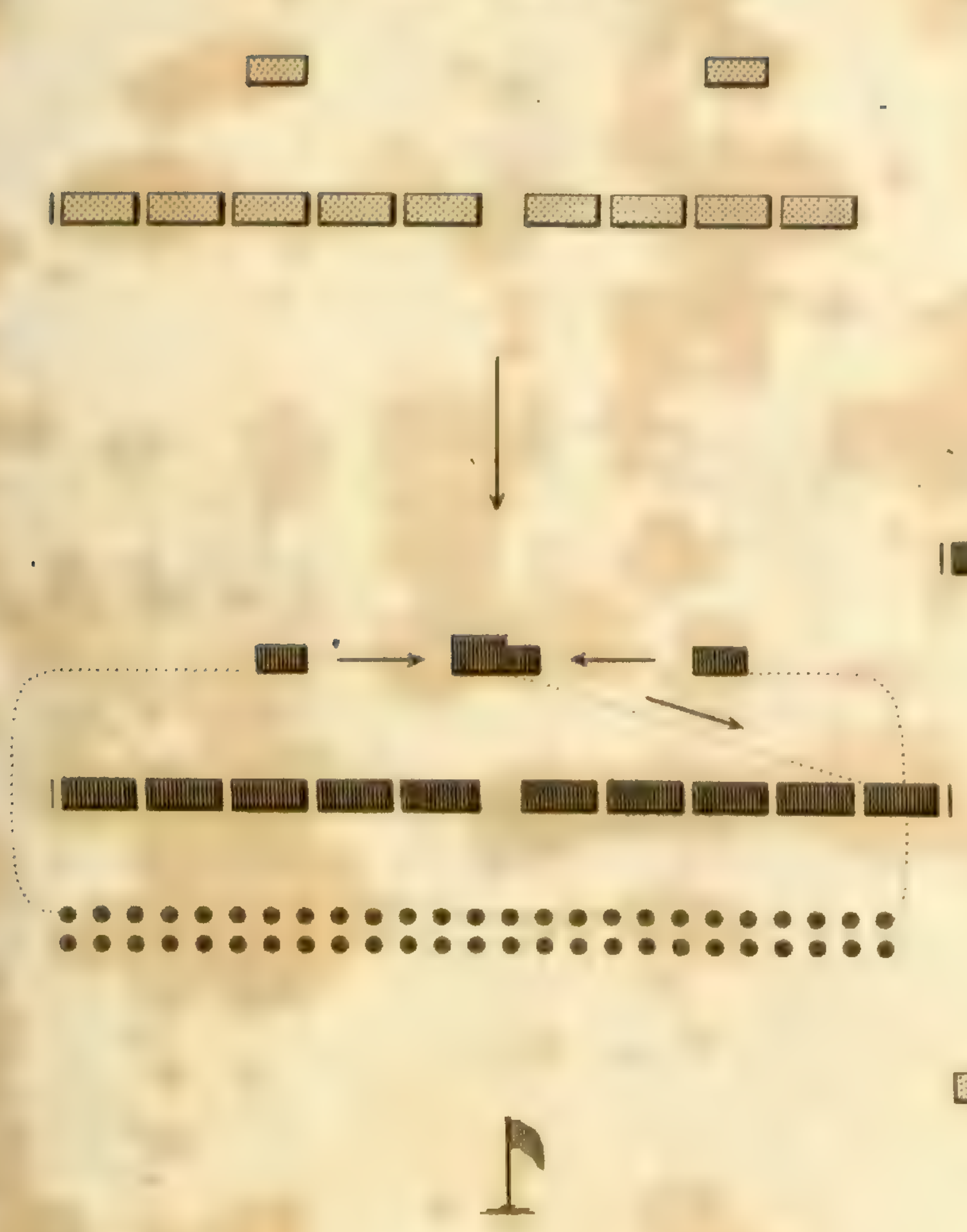
Published as the Act directs Novr 1.1804 by Longman & Rees Paternoster Row.
Engraved by Wilson Lee

MILITARY MANŒUVRES

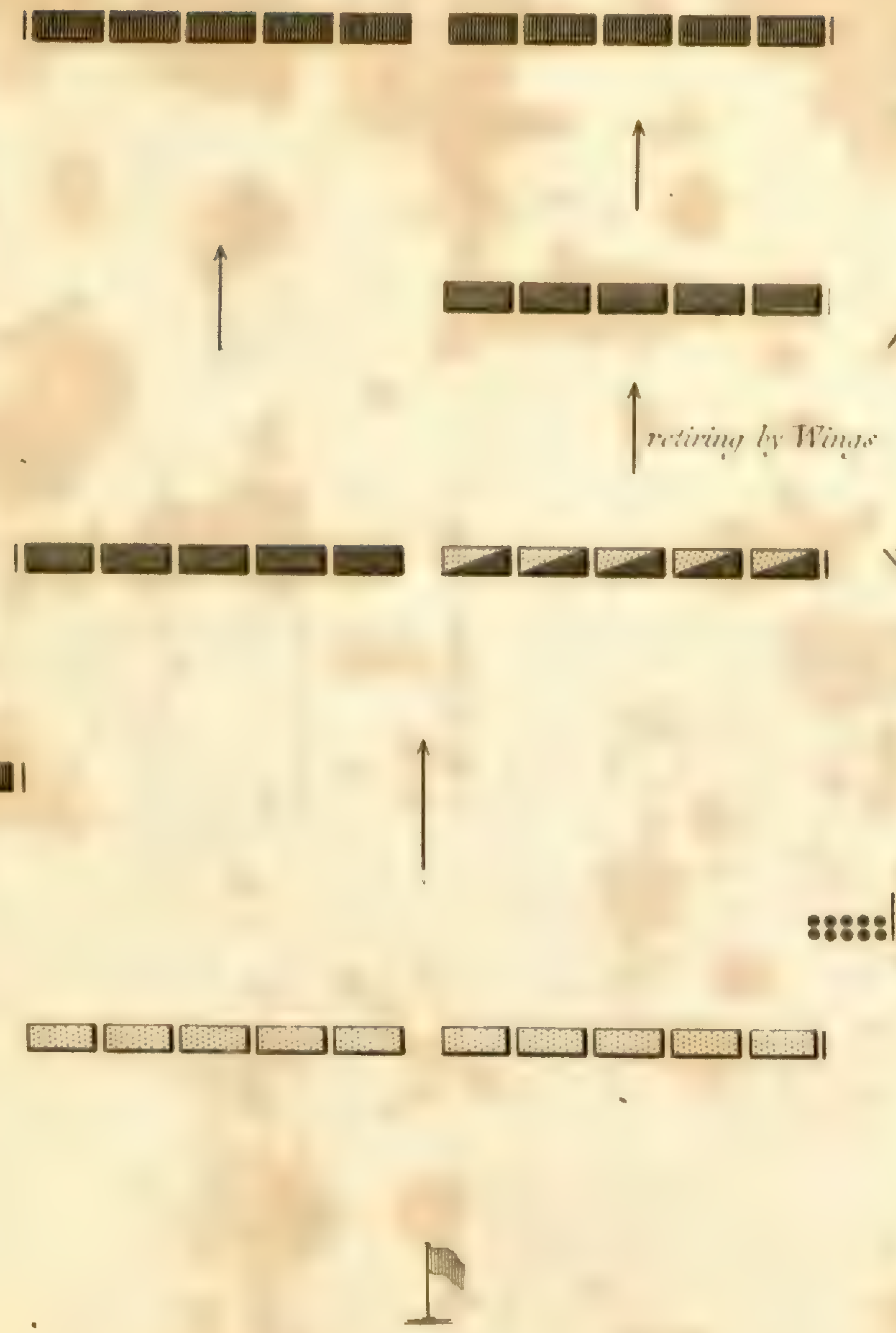


MILITARY MANŒUVRES.

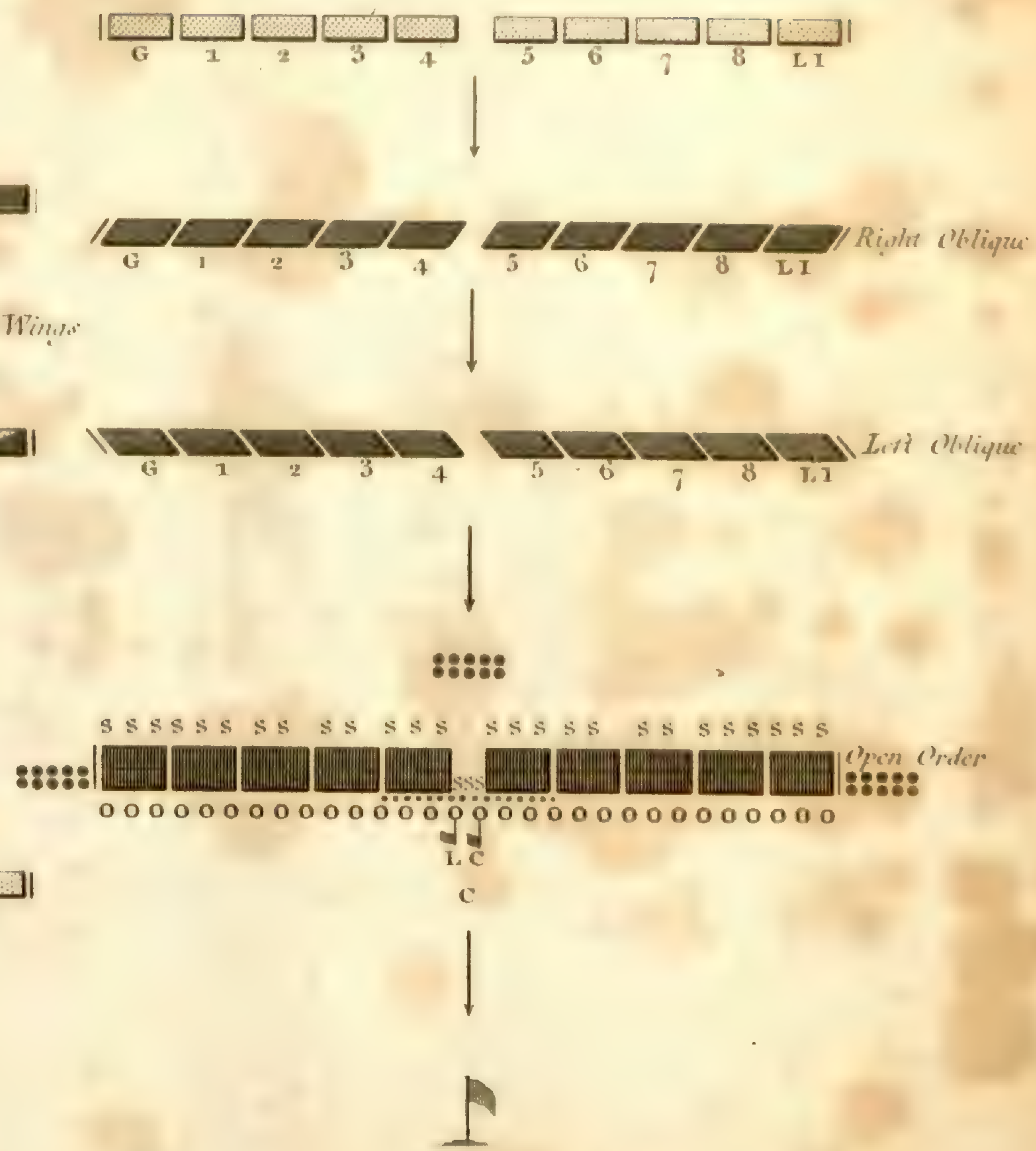
17th. Manœuvre.



18th. Manœuvre.



19th. Manœuvre.



Published as the Act directs, March 1 1806, by Longman Hurst, Rees & Orme, Paternoster Row.

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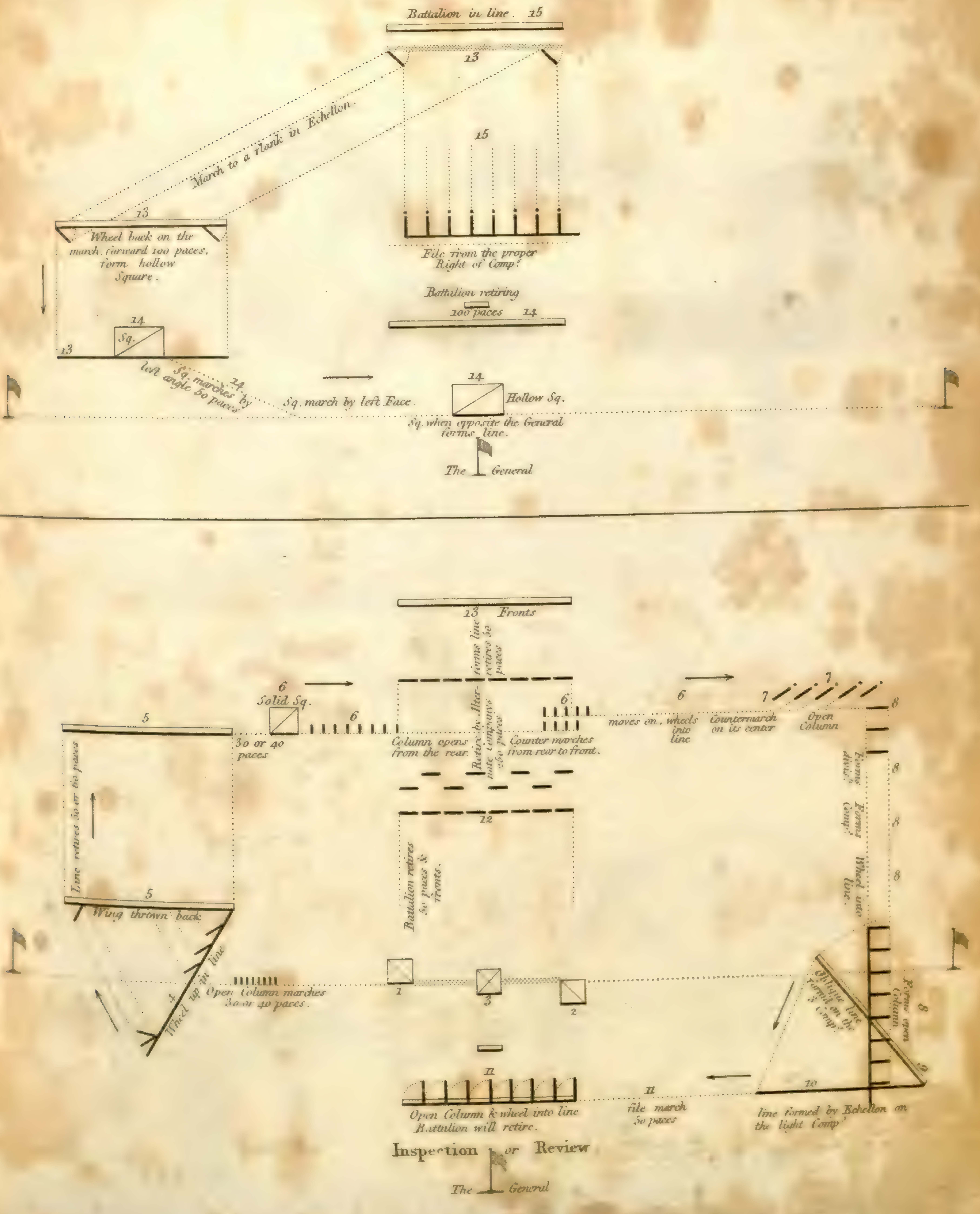
MILITARY MANŒUVRES.



Published as the Act directs, Feb.y 1.1806. by Longman, Hurst, Rees & Orme, Paternoster Row.

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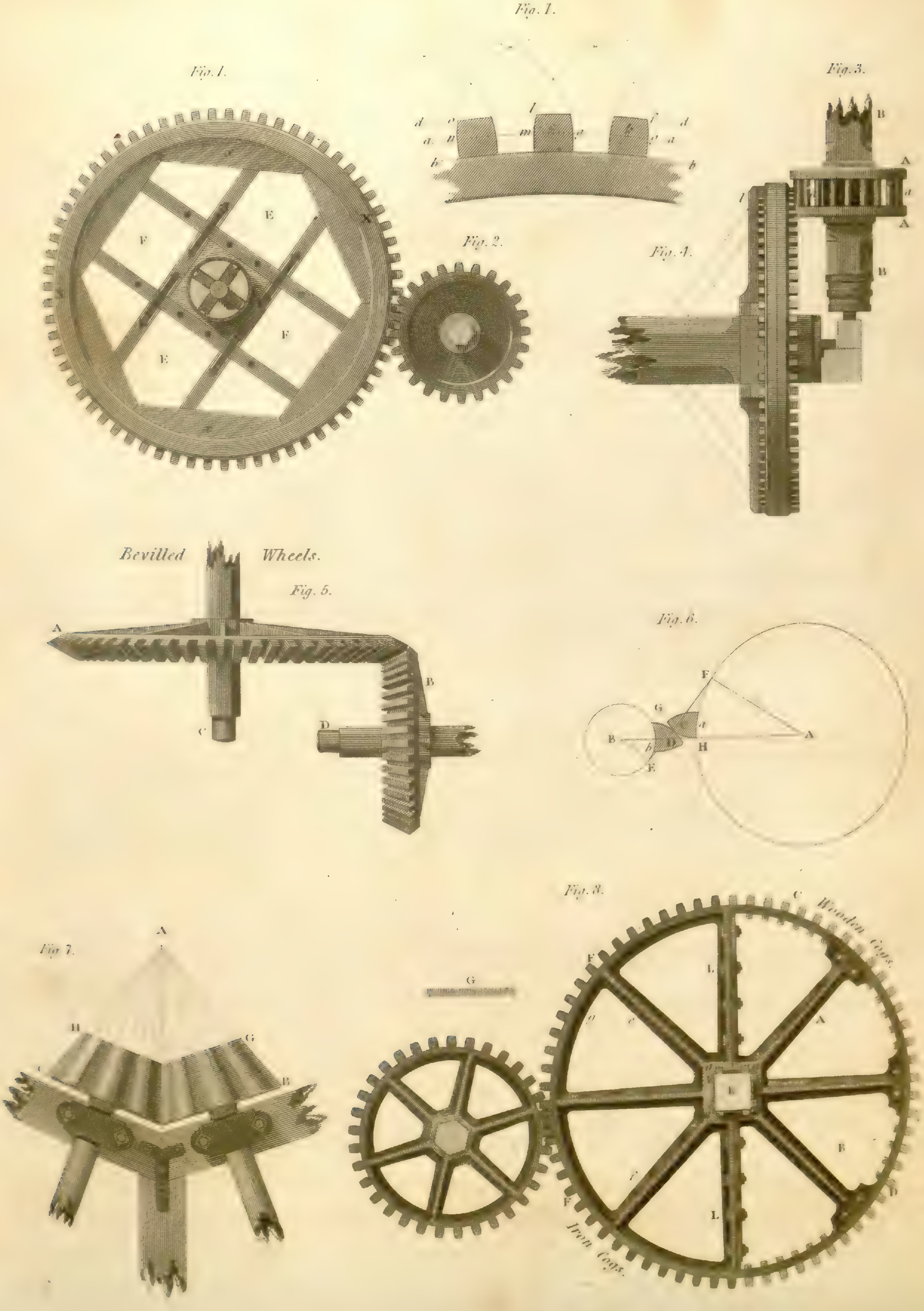
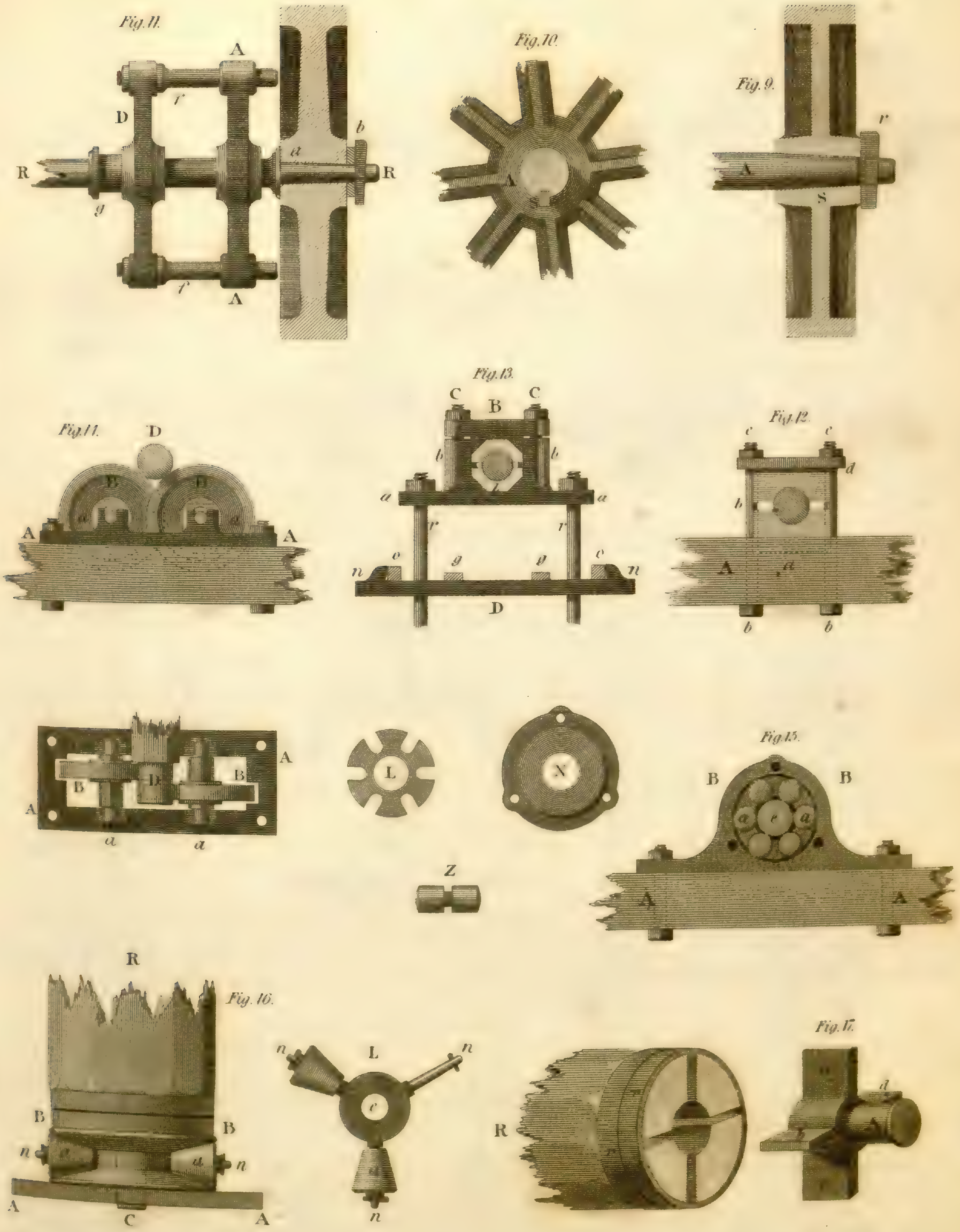
MILL-WORK.



Longman Rees Orme & Brown Paternoster Row London



Published as the Act directs, Octr. 1st 1805, by Longman, Hurst, Rees & Orme, Paternoster Row.

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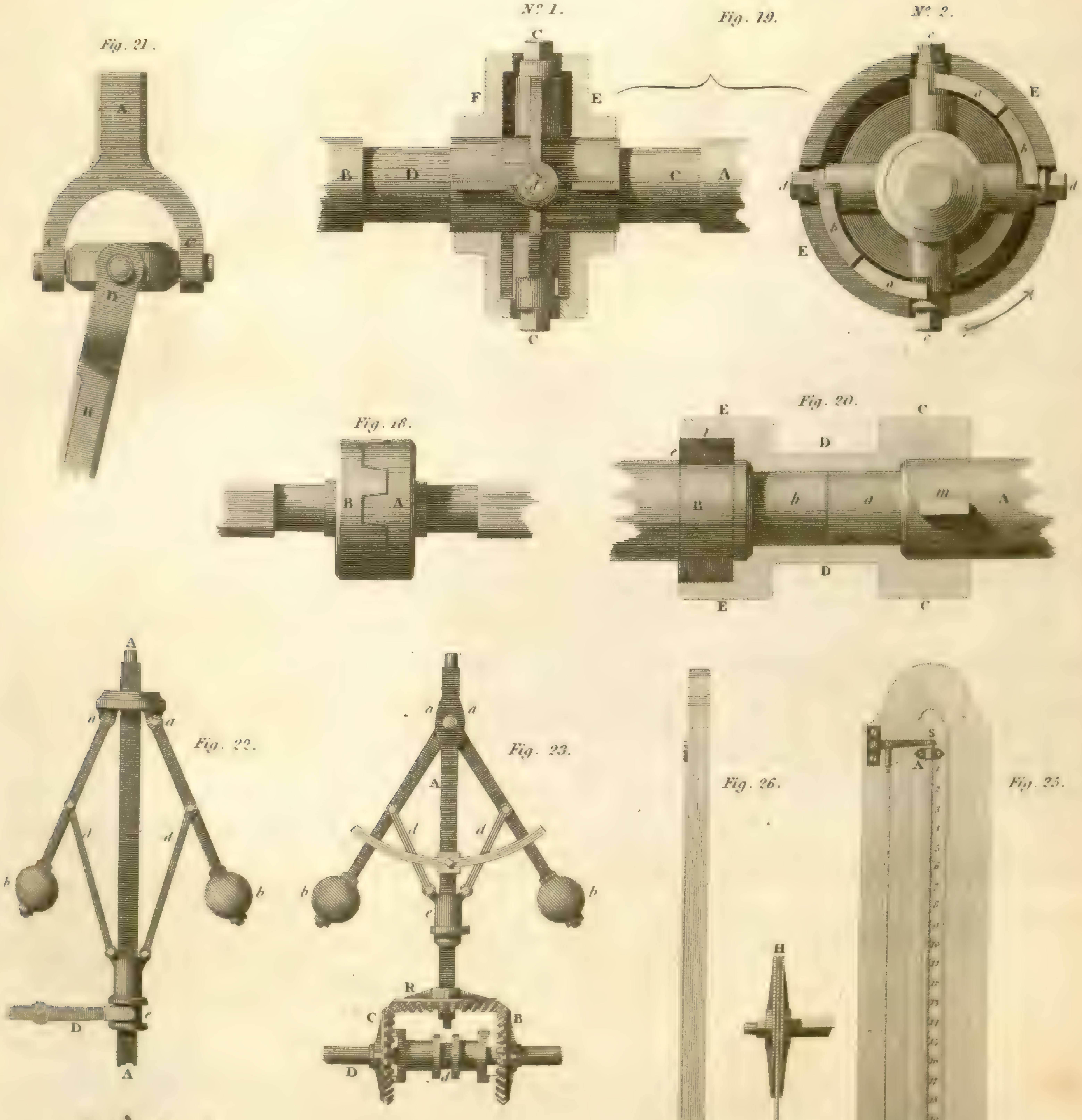
MILL WORK



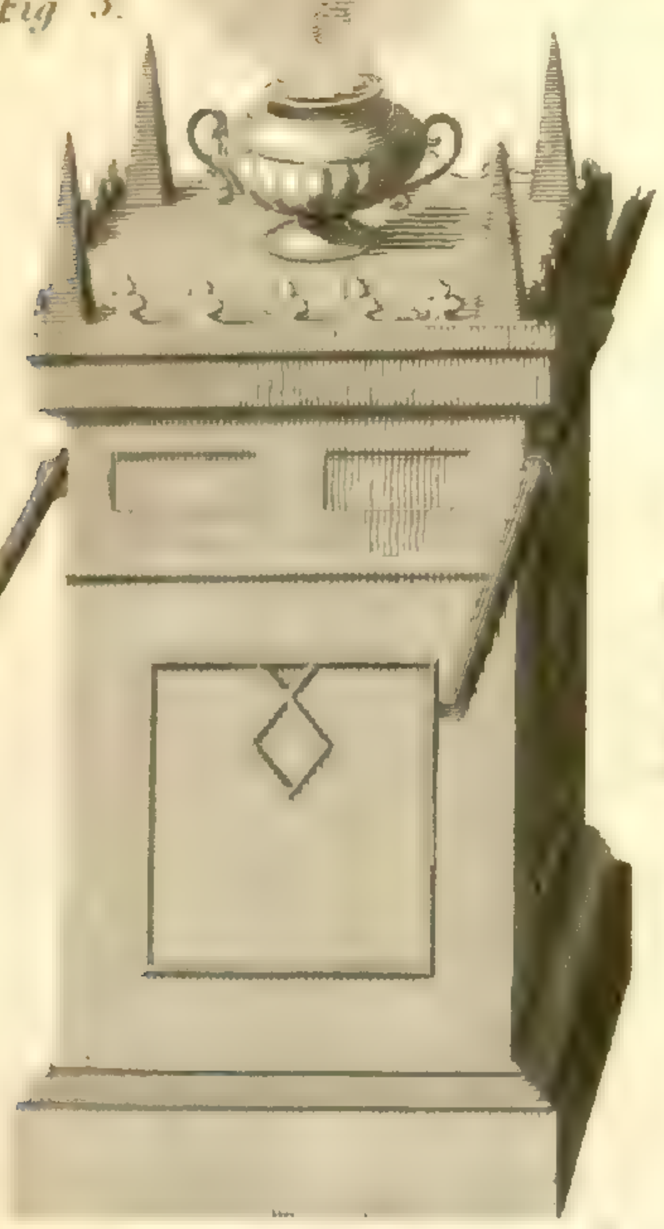
J. Farey del.

Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry Sculp.

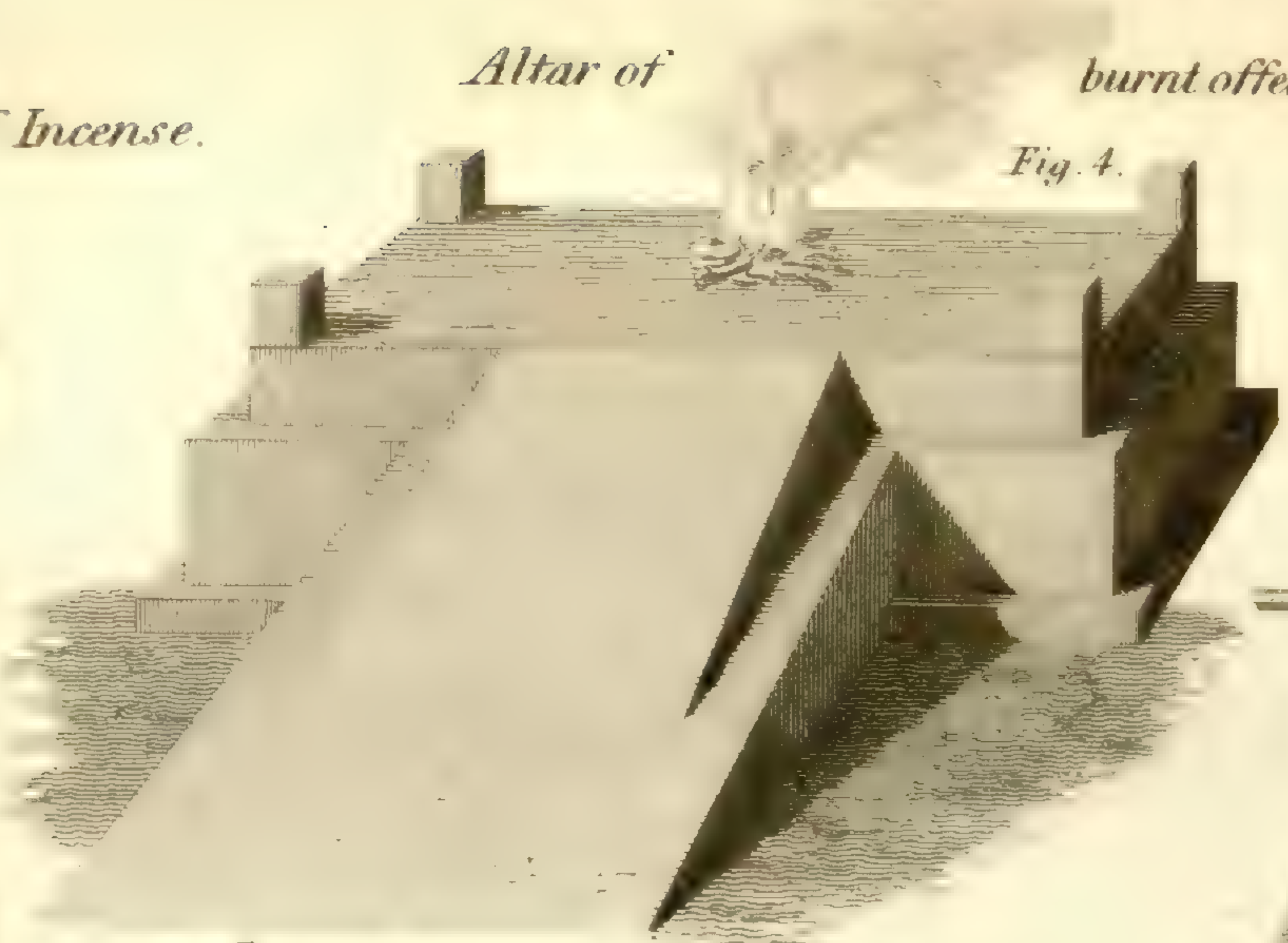
MISCELLANY.

Altar of Incense. Fig. 3.

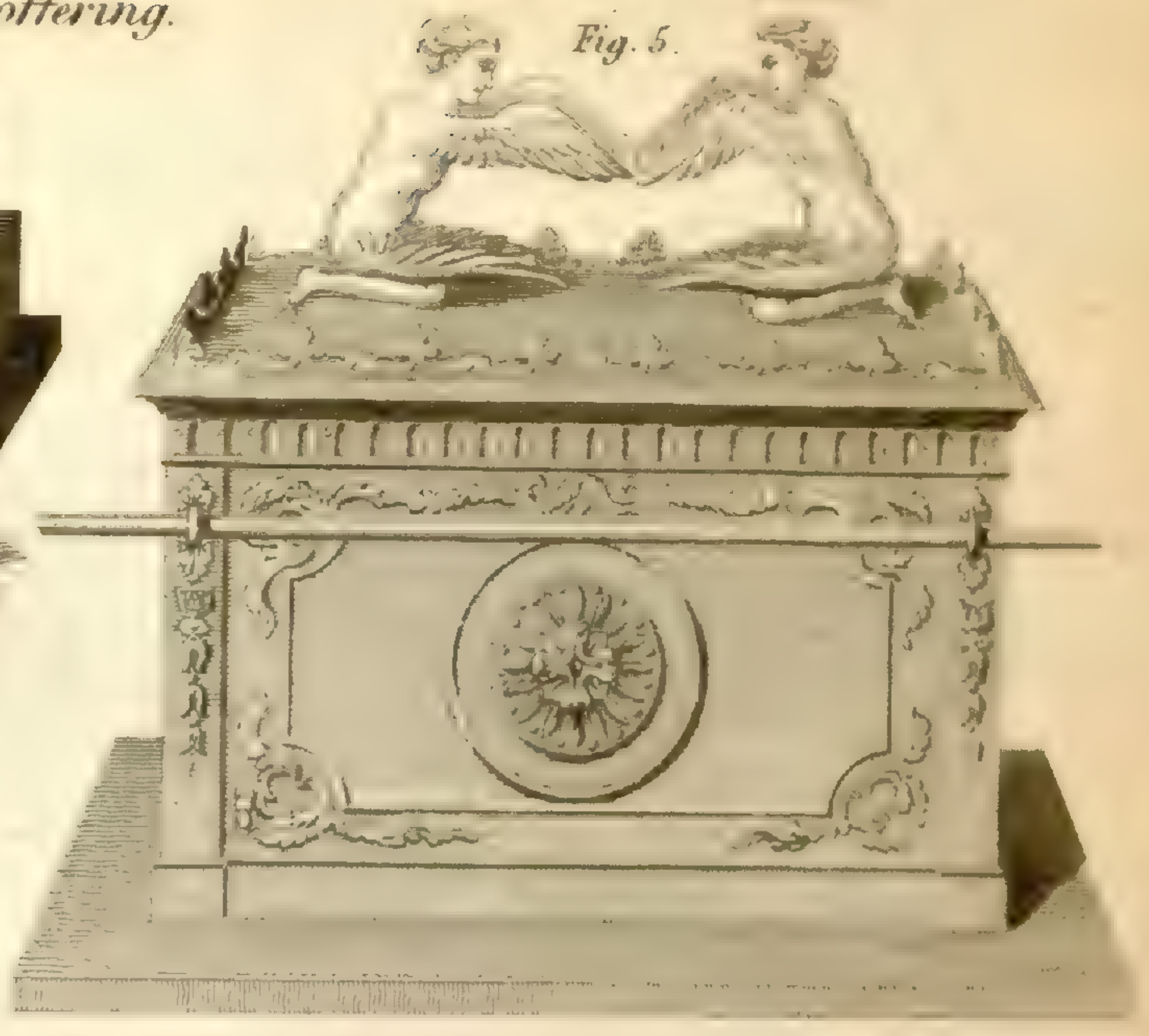


A

Altar of burnt offering. Fig. 4.



ARK of the Covenant. Fig. 5.



ALTITUDE of the Sea. Sea Gage. Fig. 2.

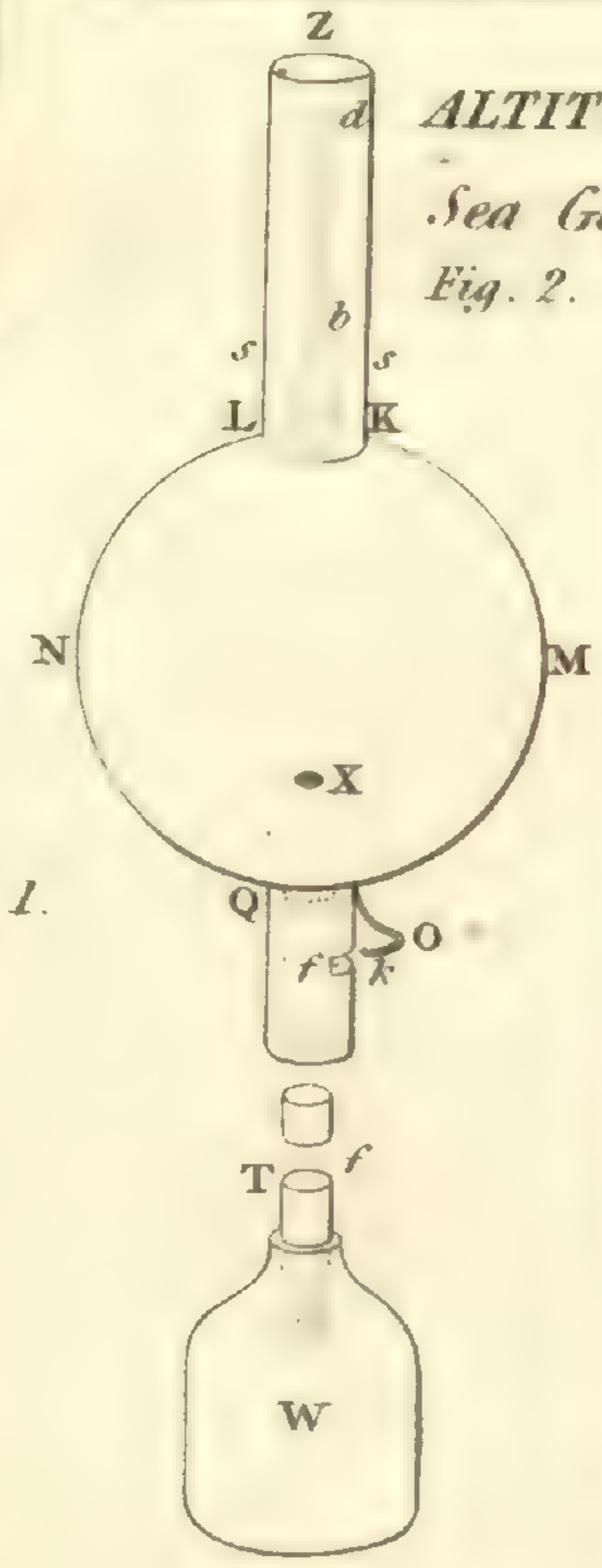
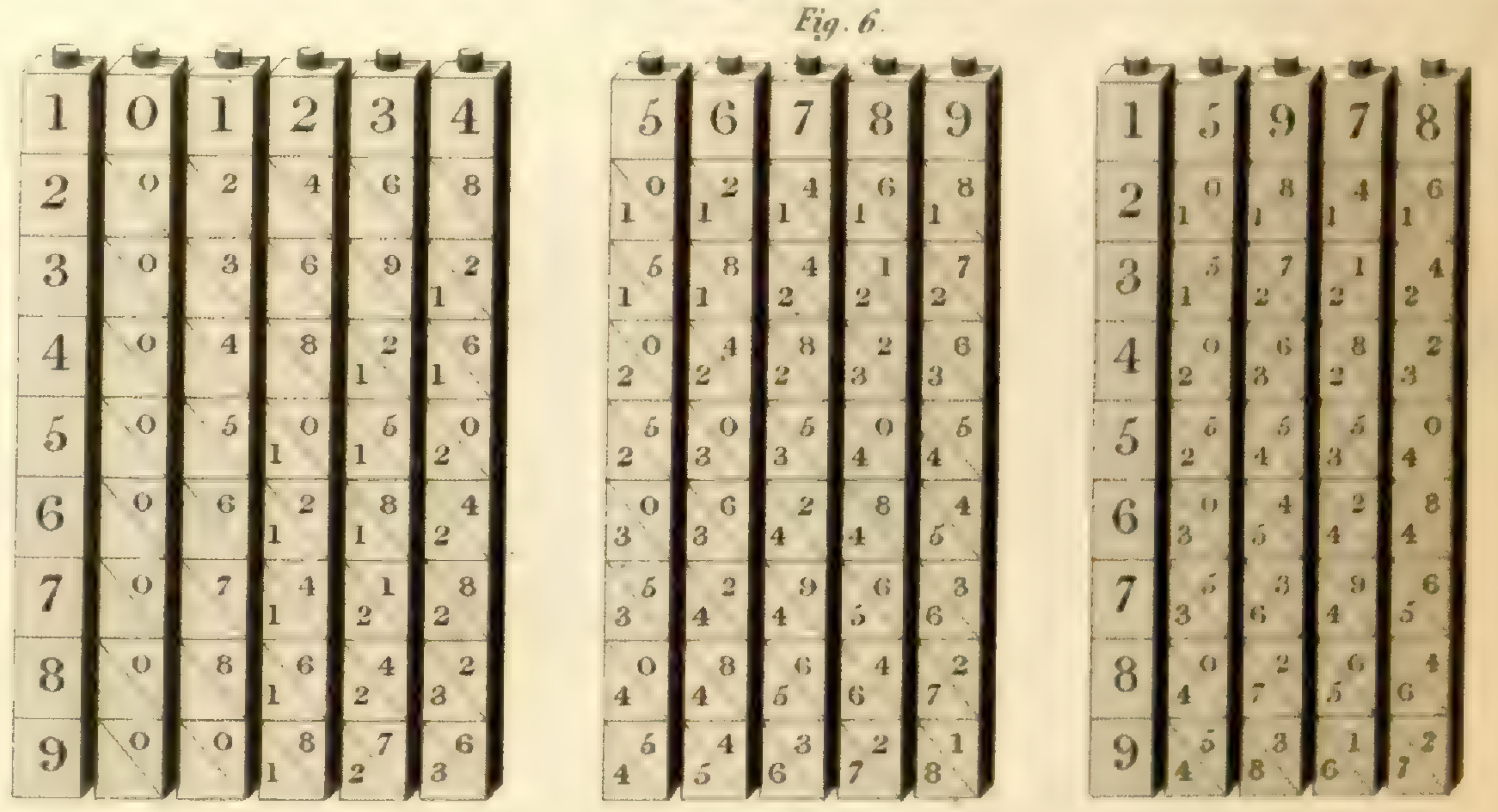


Fig. 1.

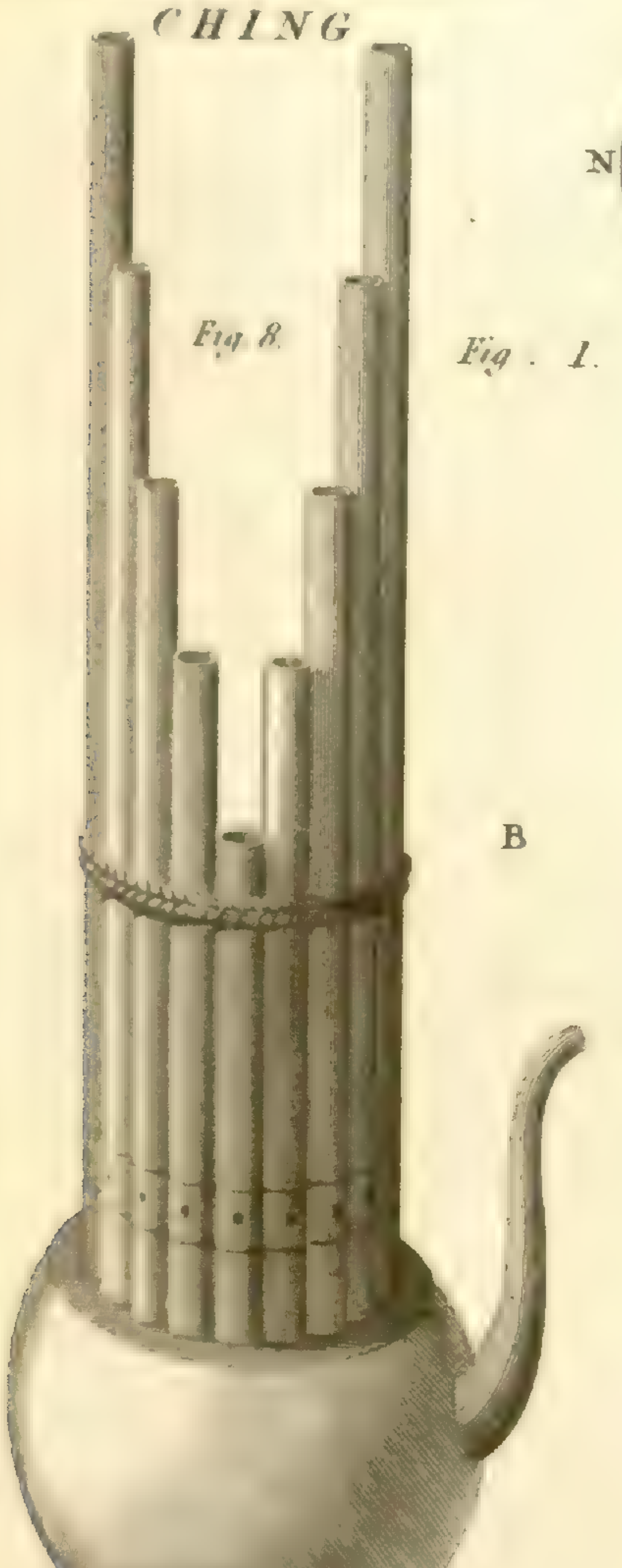
NEPER'S Bones. Fig. 6.



Chinese Musical Instruments.

CHING

Fig. 8.



B

ANCIENT ARITHMETICAL CHARACTERS. Fig. 7.

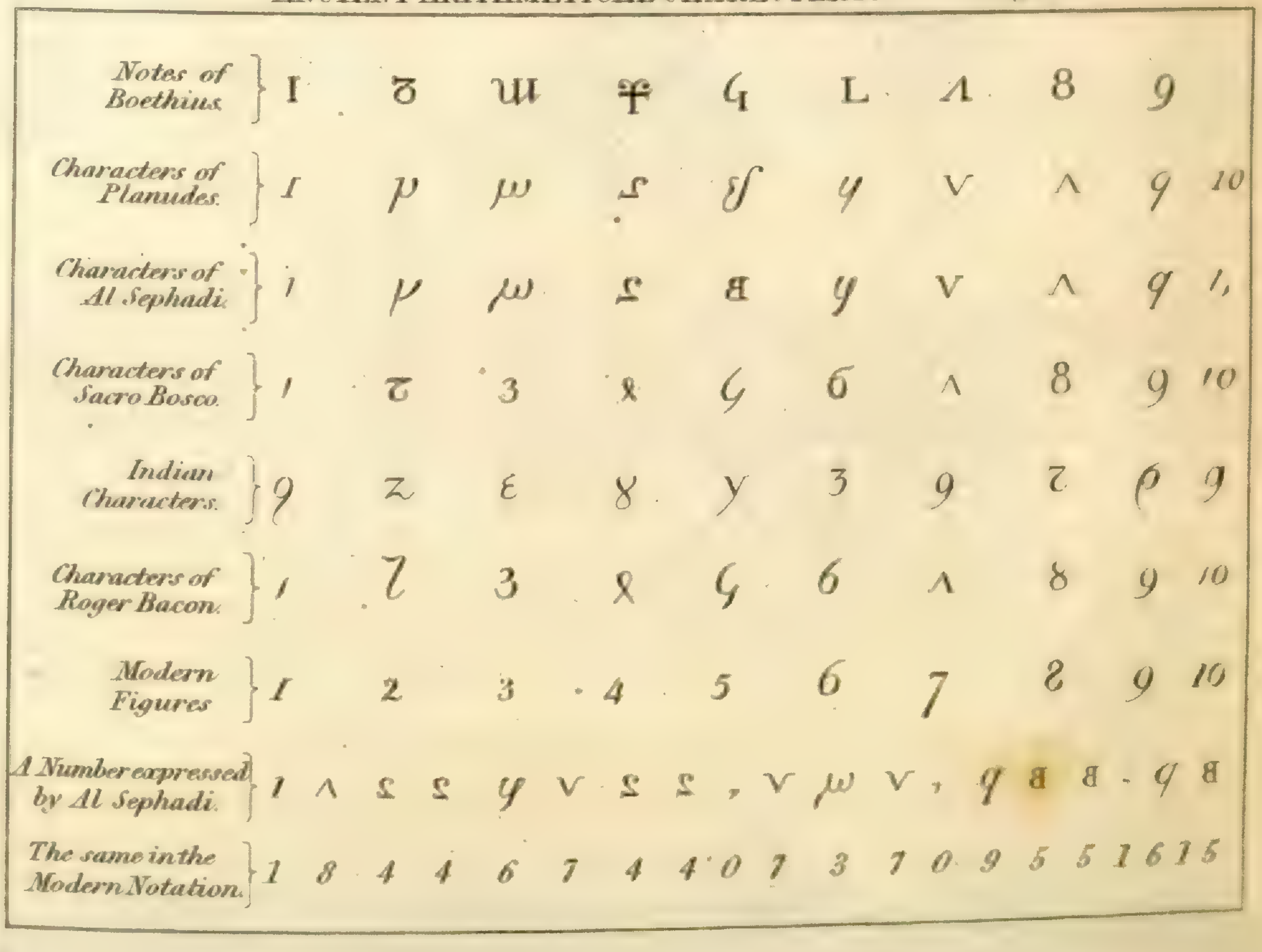


Fig. 9.

KING.

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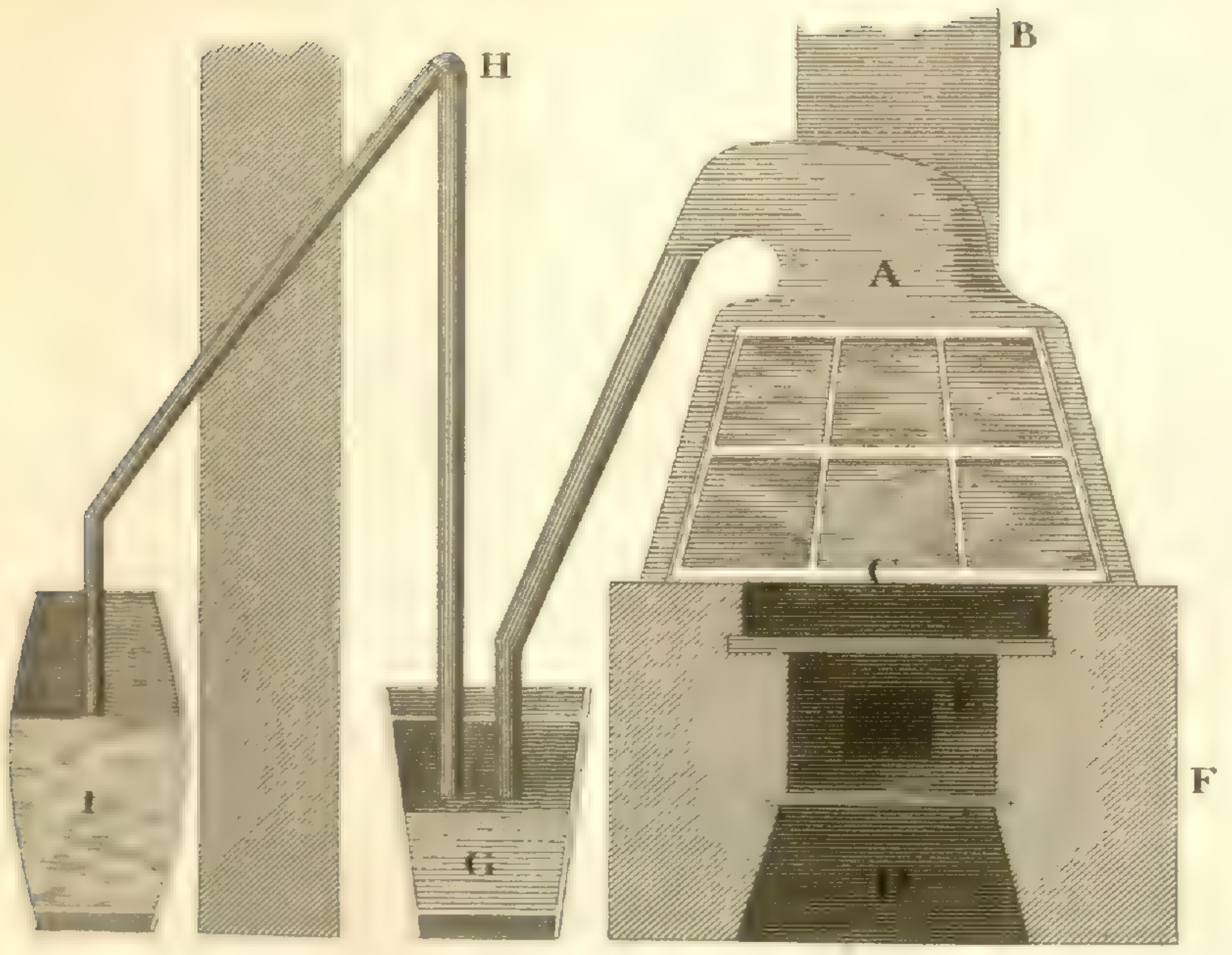
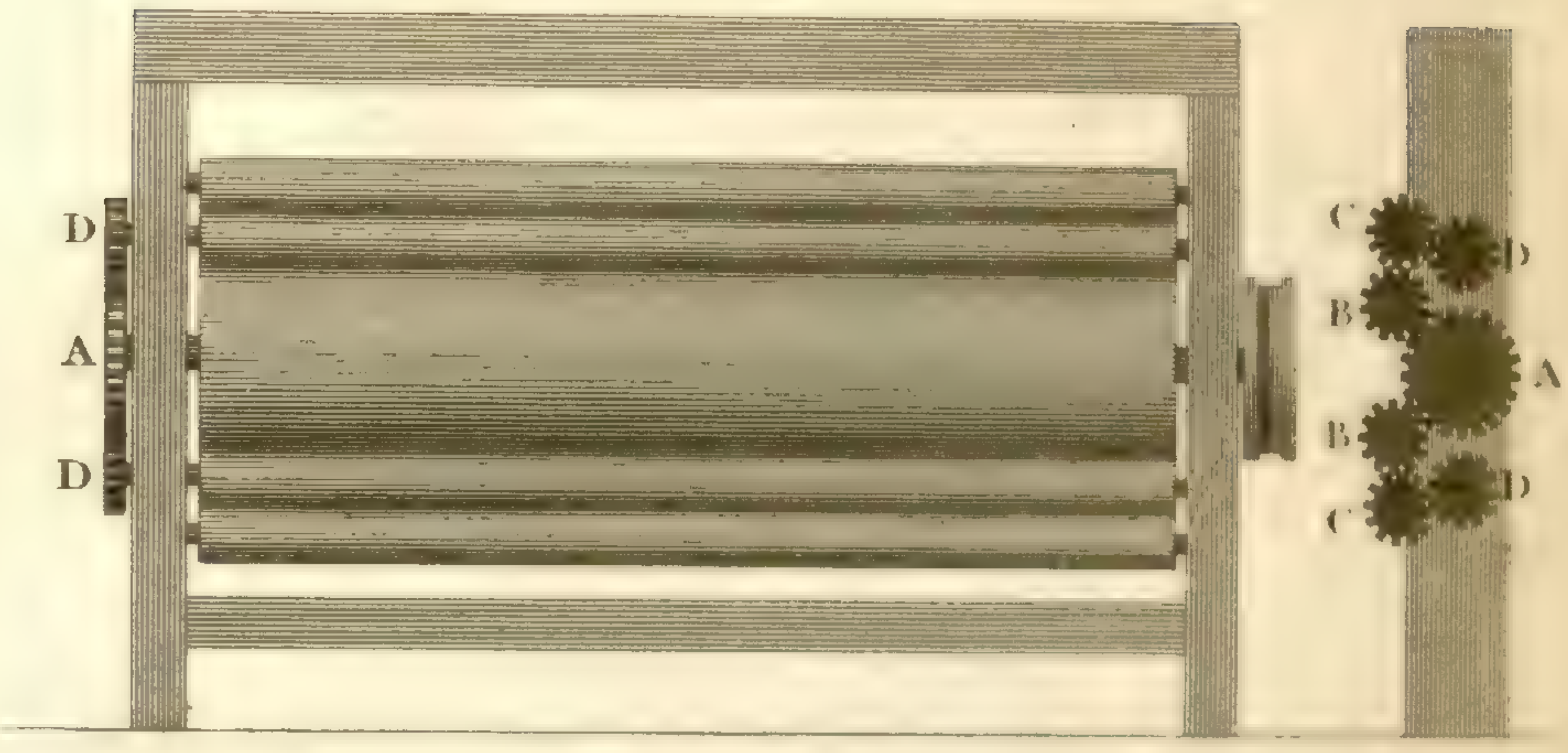
MISCELLANY.

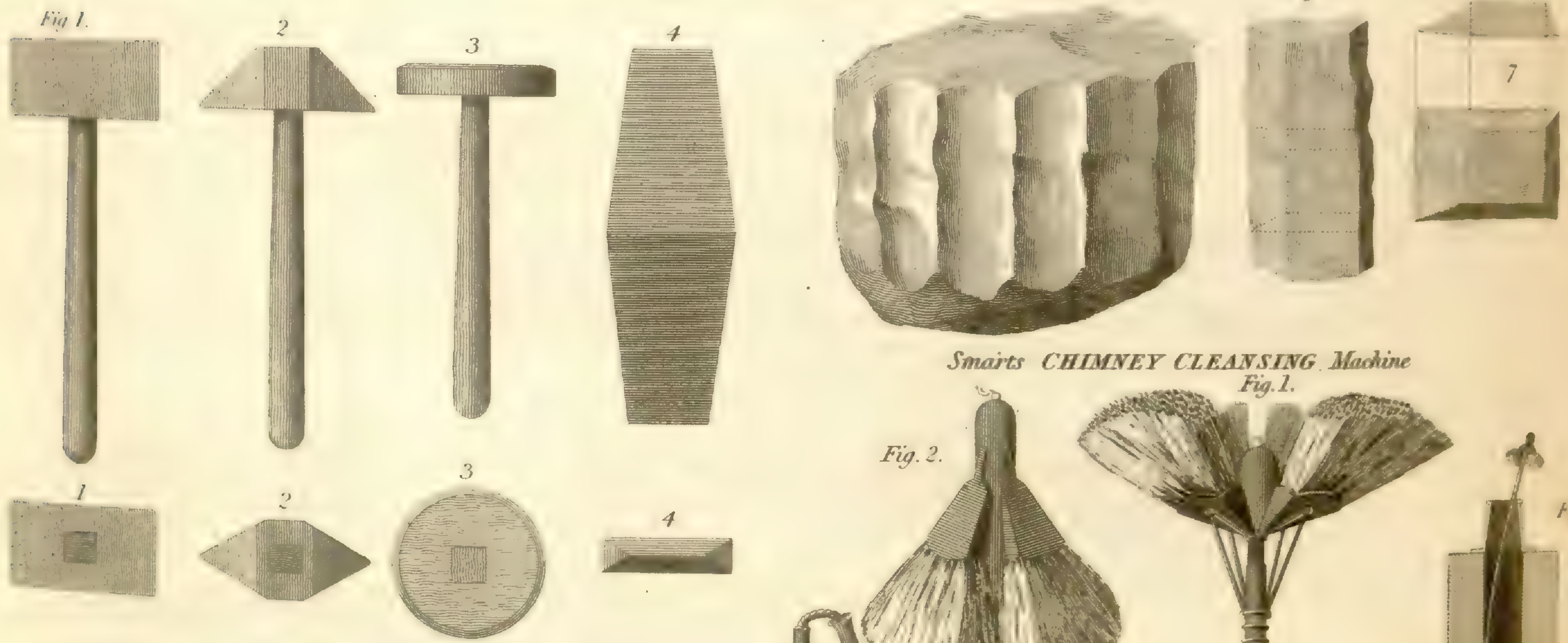
BUTTON Making



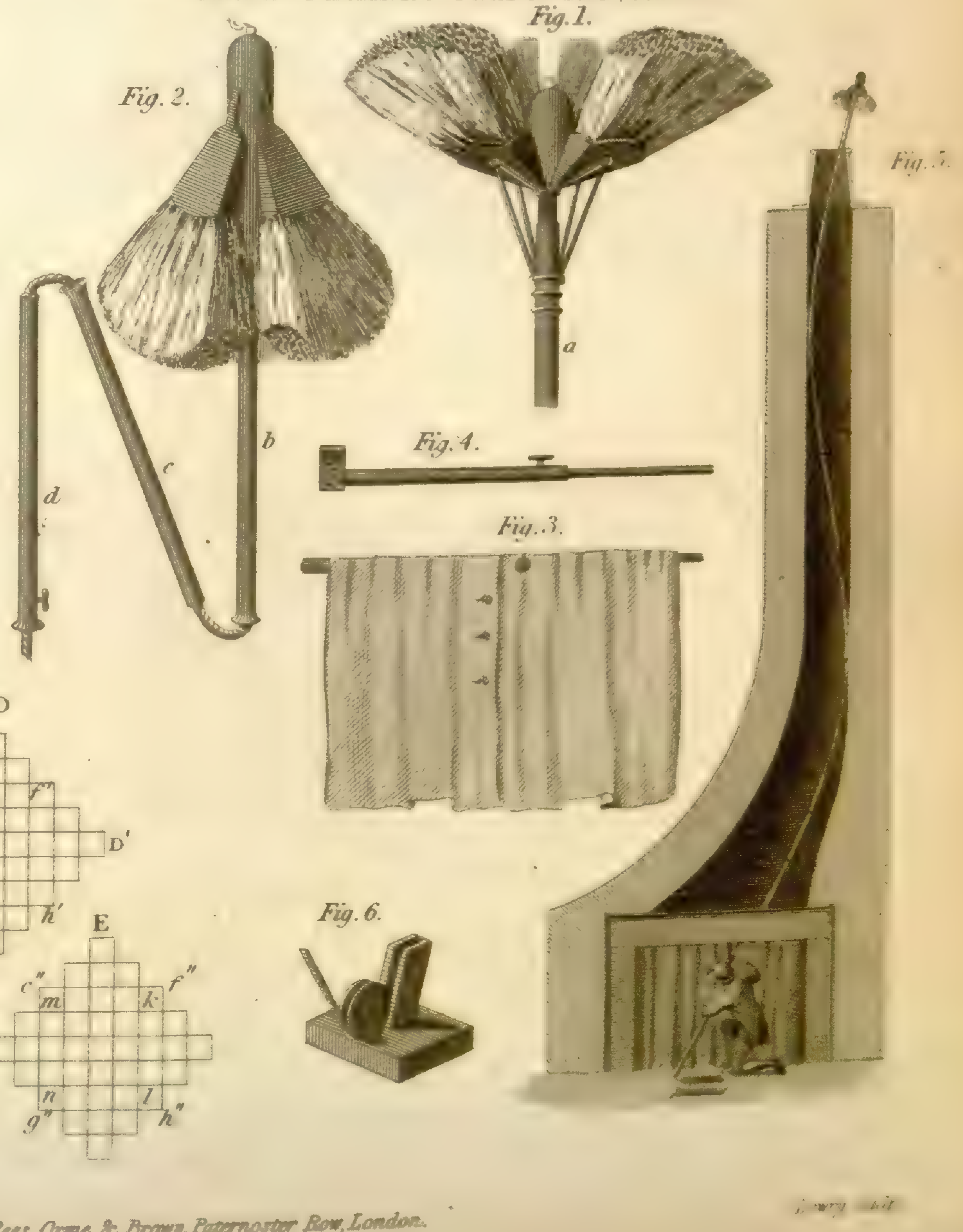
GLAZING Cloth



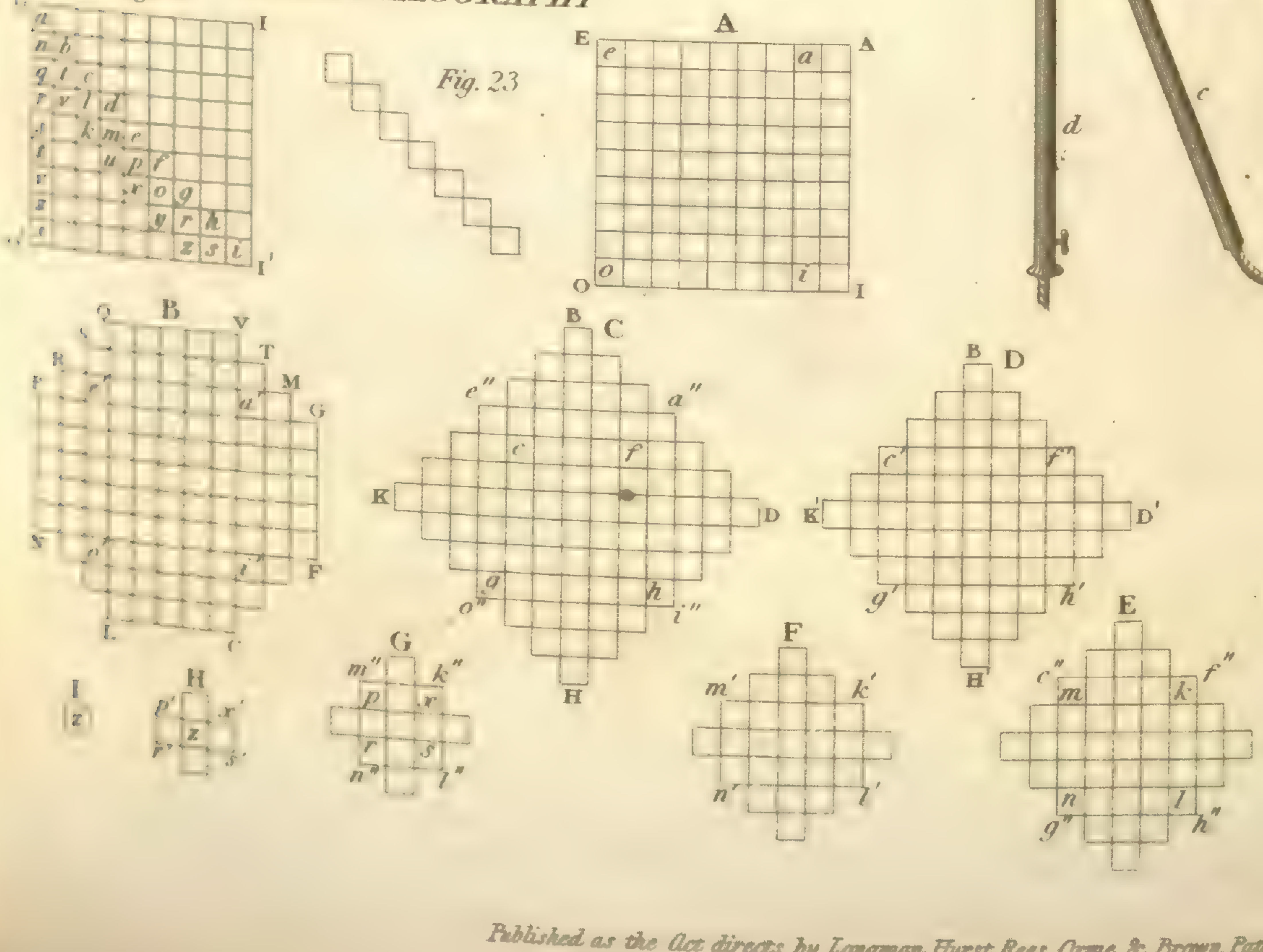
Tools for cutting GUN FLINTS



Smarts CHIMNEY CLEANSING Machine



CRYSTALLOGRAPHY



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MISCELLANY.

PLATE COINAGE.

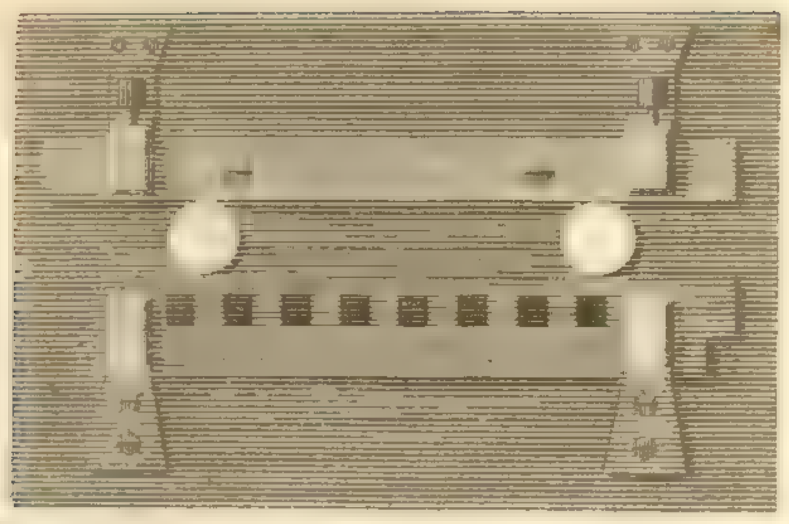


Fig. 2. Milling

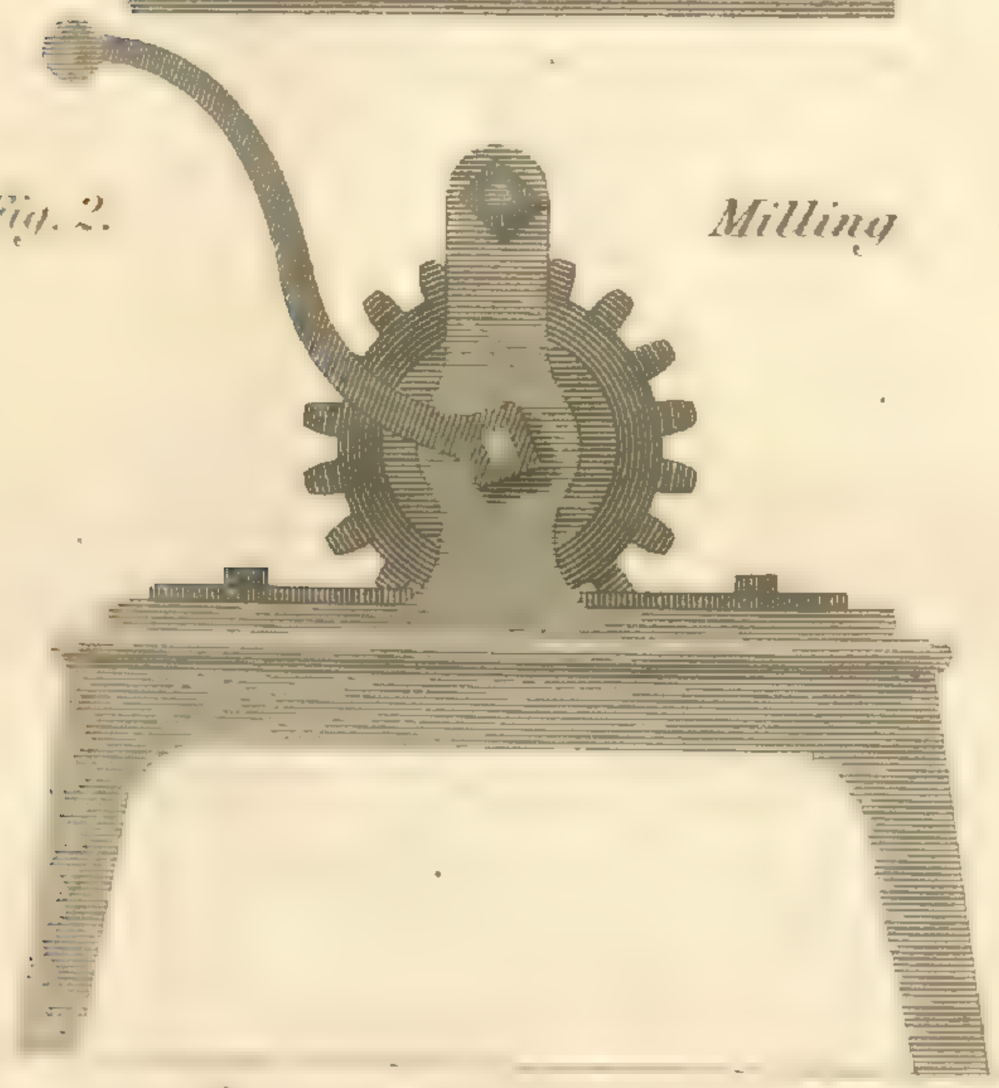


Fig. 4.

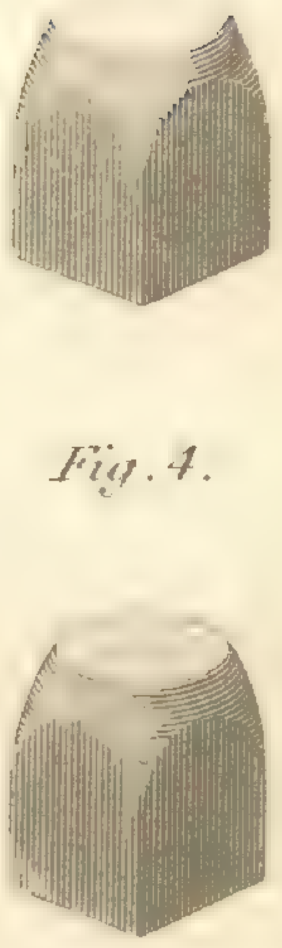


Fig. 3.

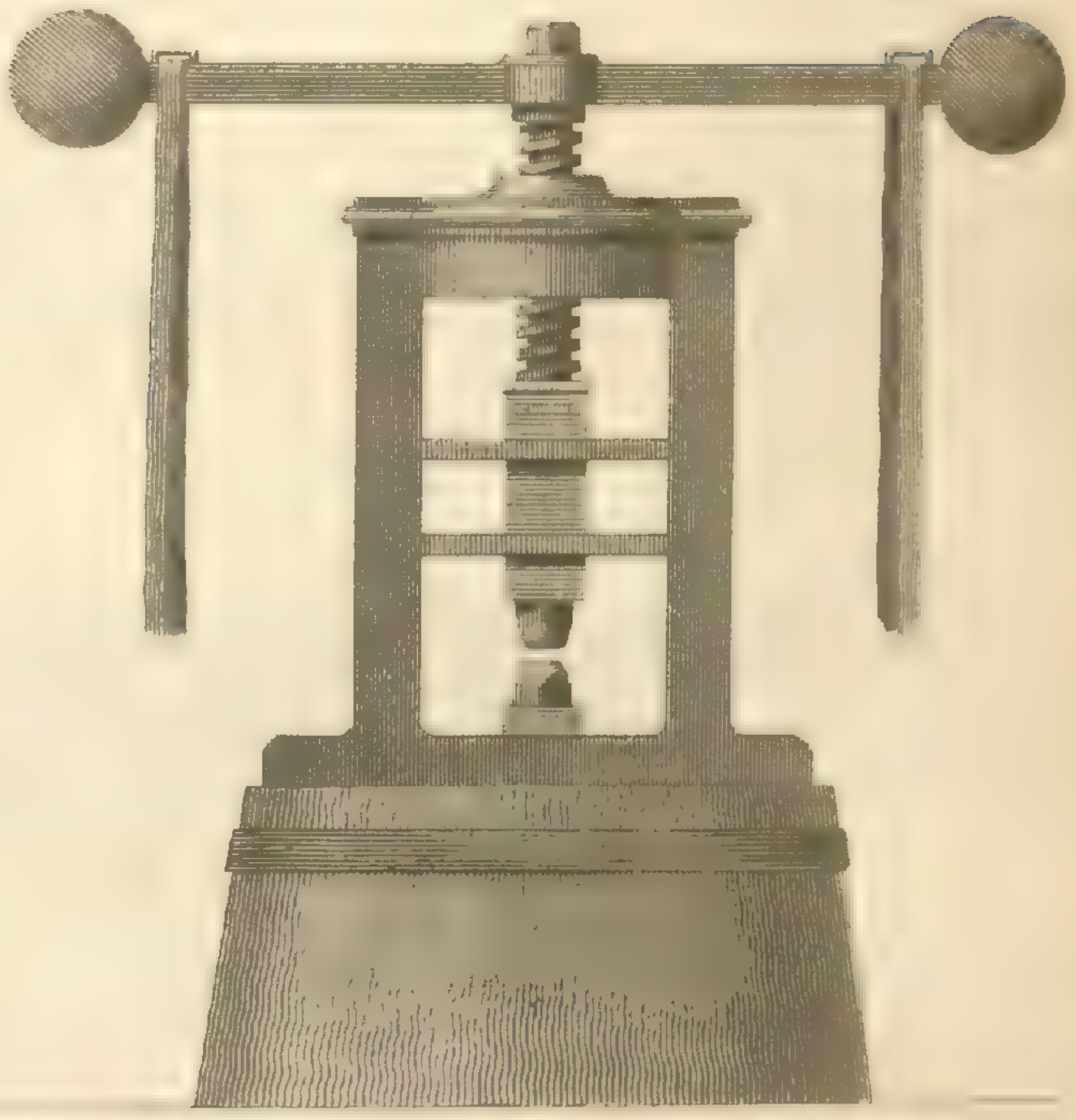
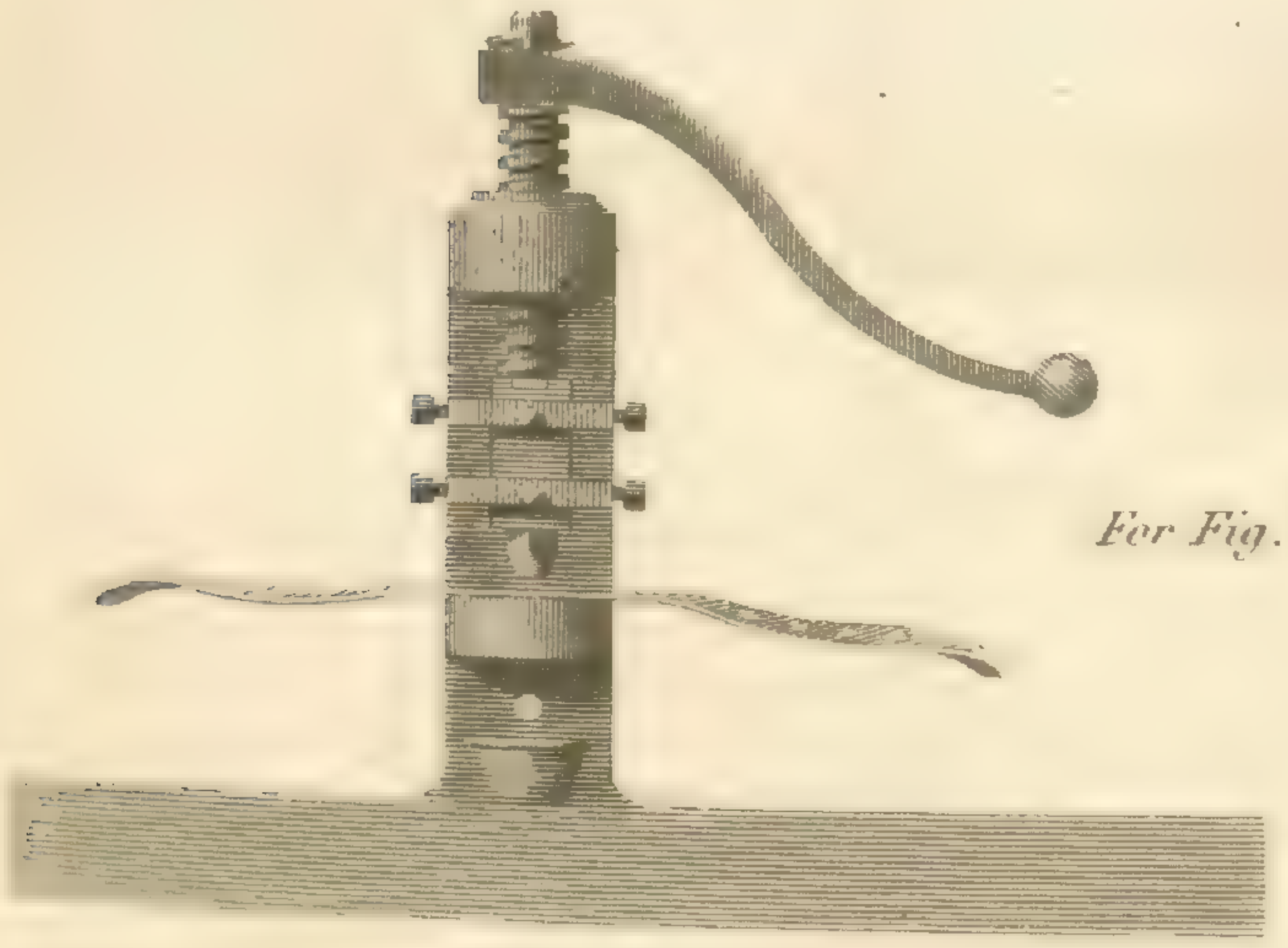


PLATE III

MISCELLANY.

COPYING.

Fig. 1. Coinage.



For Fig. 4. see the next Plate.

Fig. 3.

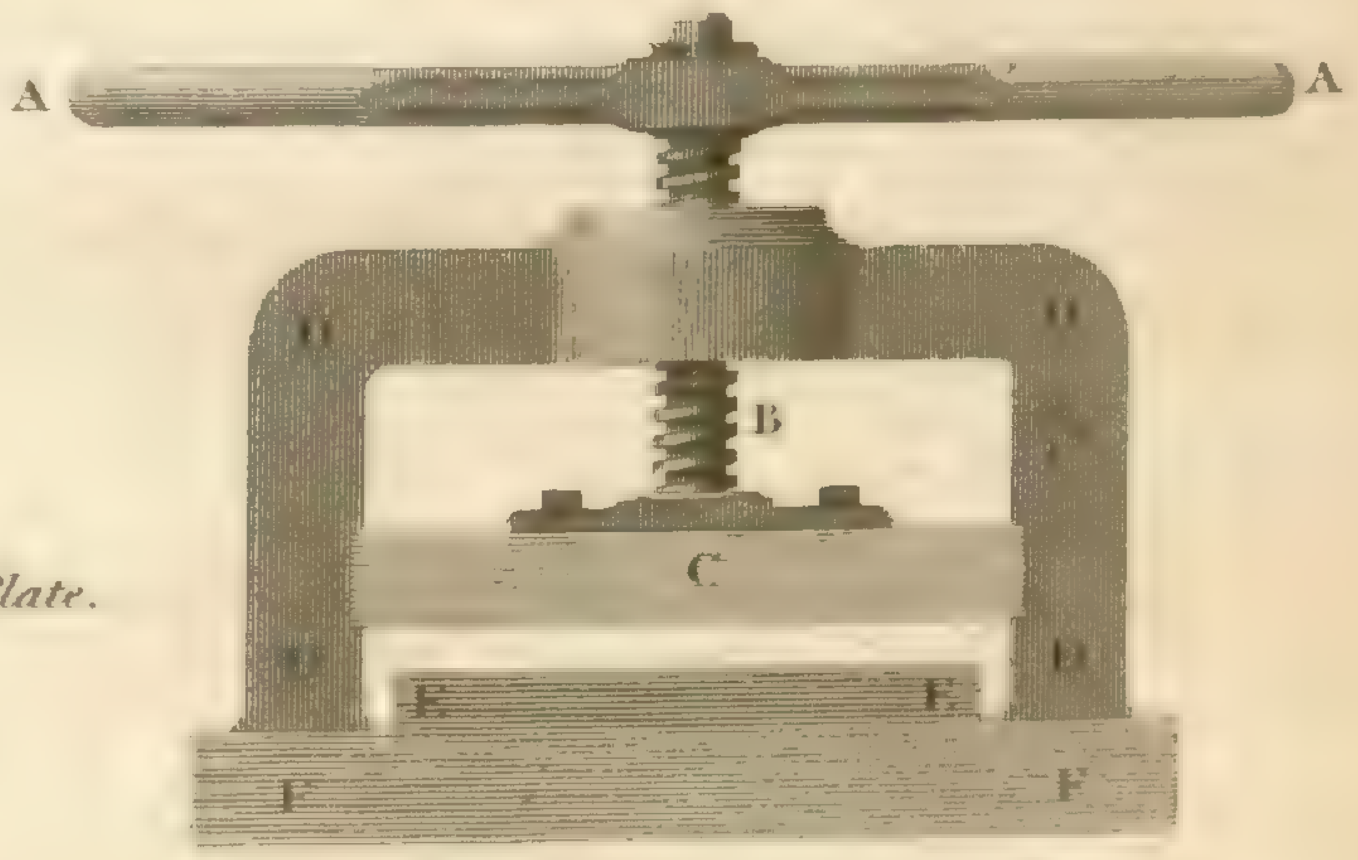


Fig. 1.

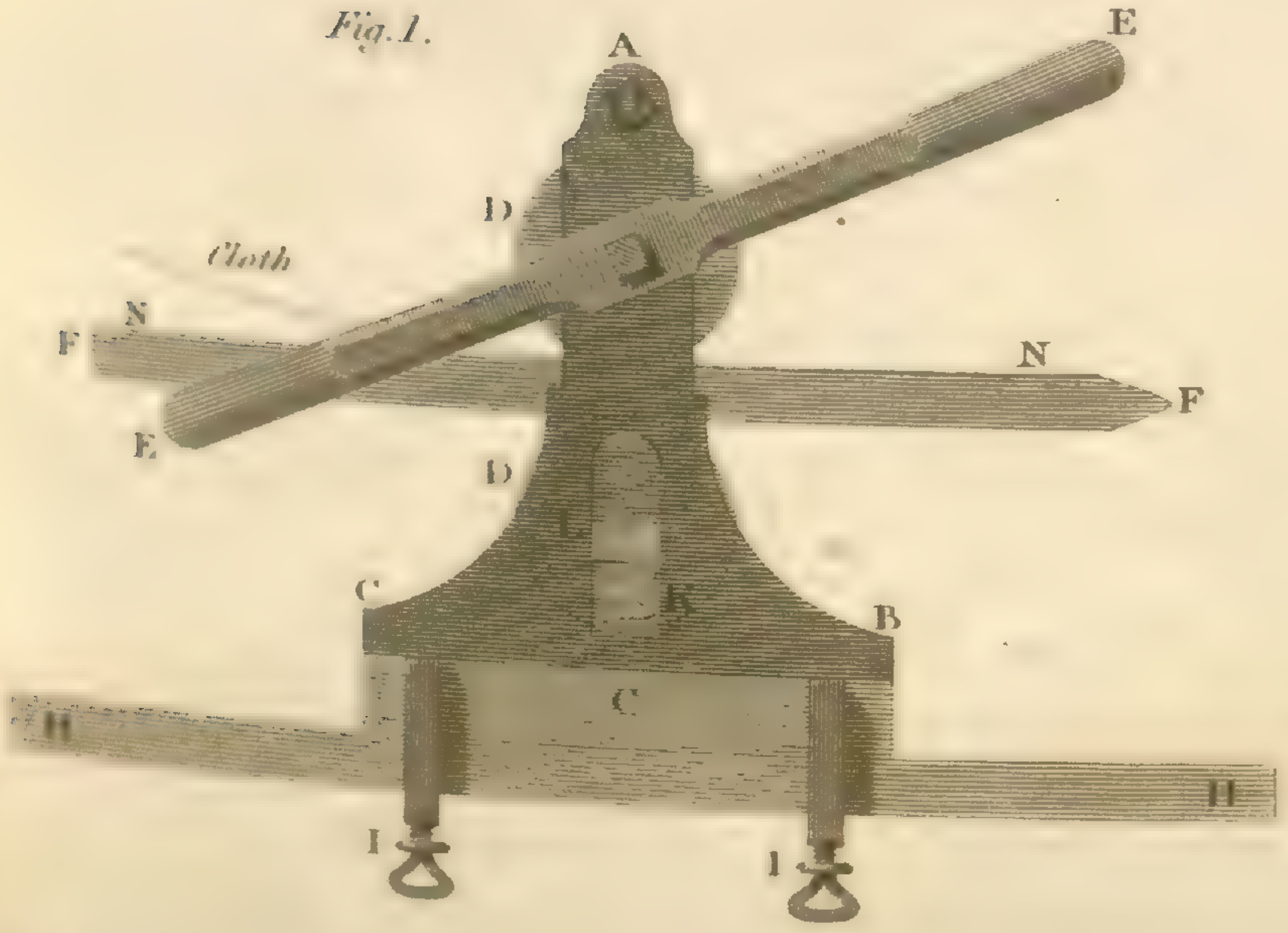
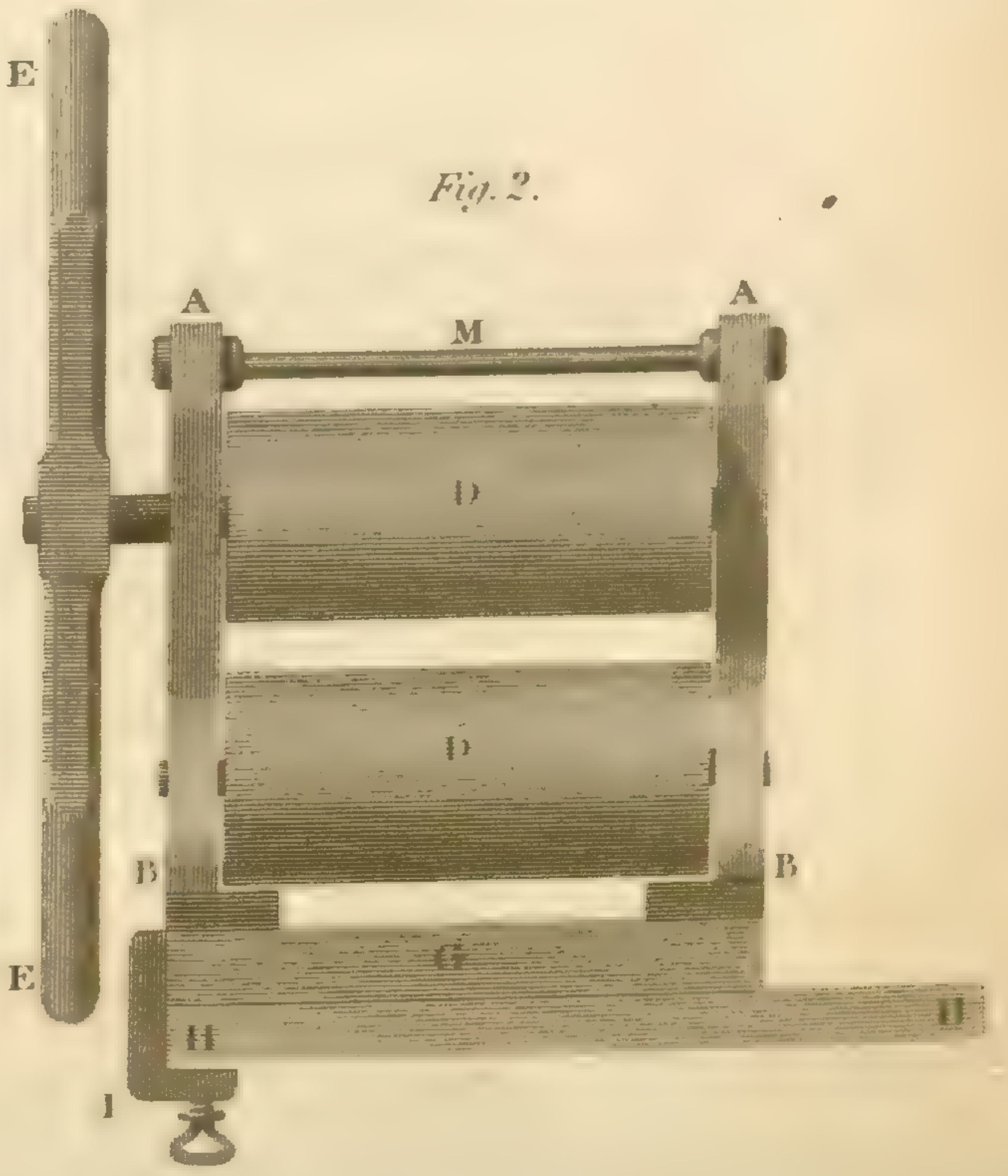


Fig. 2.



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MISCELLANIES.

PLATE III*.

Hawkins's patent Polygraph.

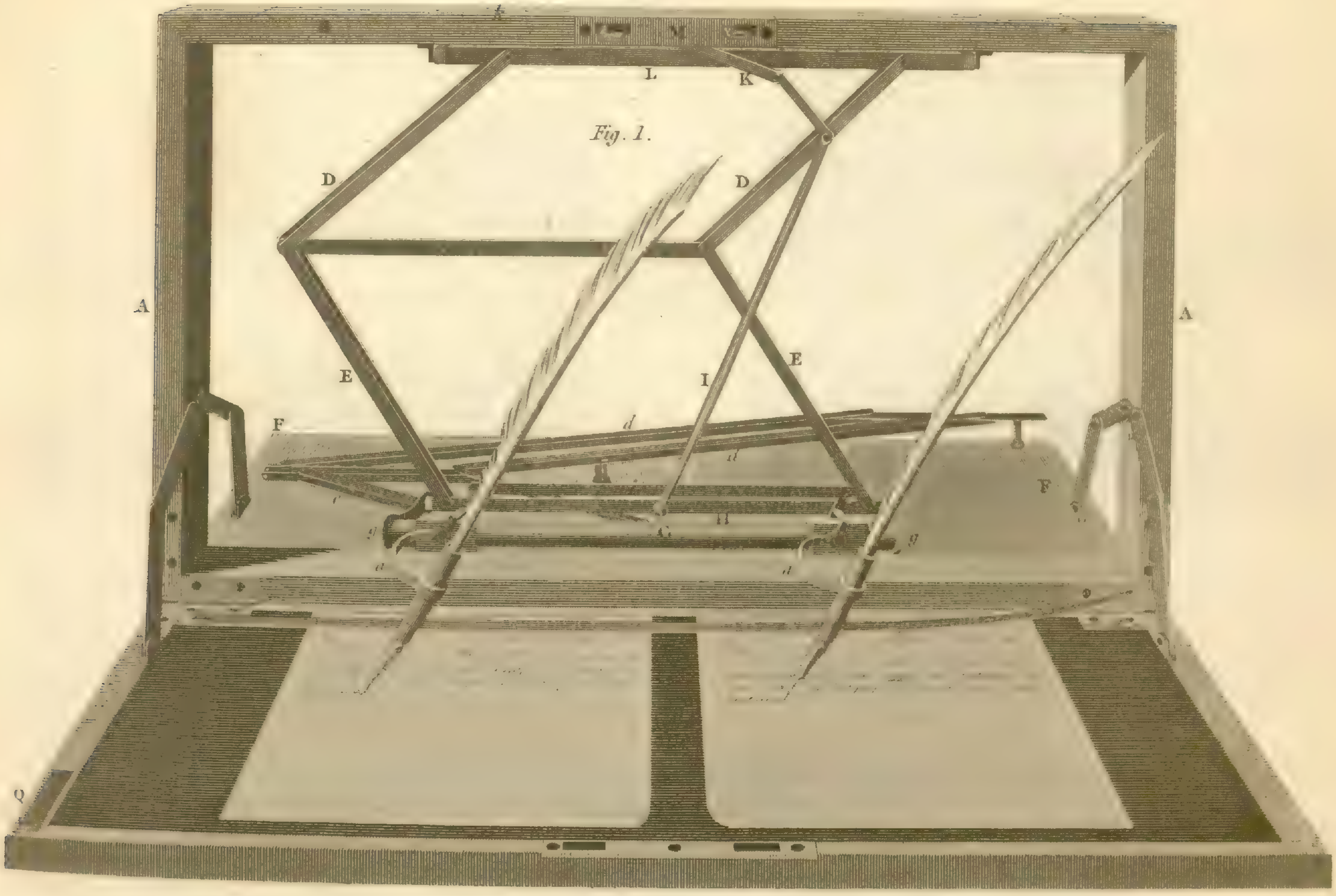

Fig. 1.

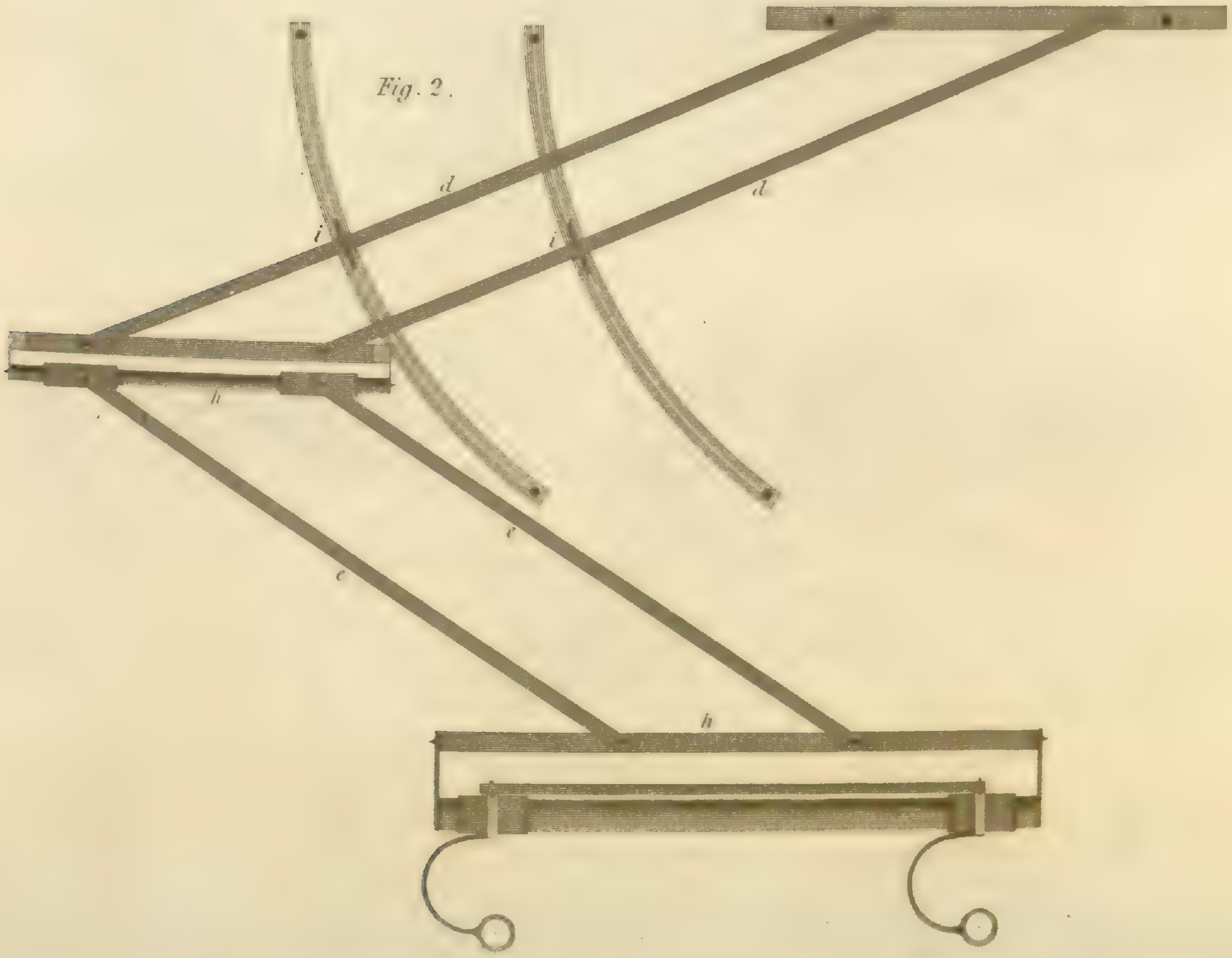

Fig. 2.

Junr. delin.

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Engraved by Wilson Lowry.

MISCELLANY.

DESIGNS FOR WEAVING.

Fig. 7.
Similar Spots

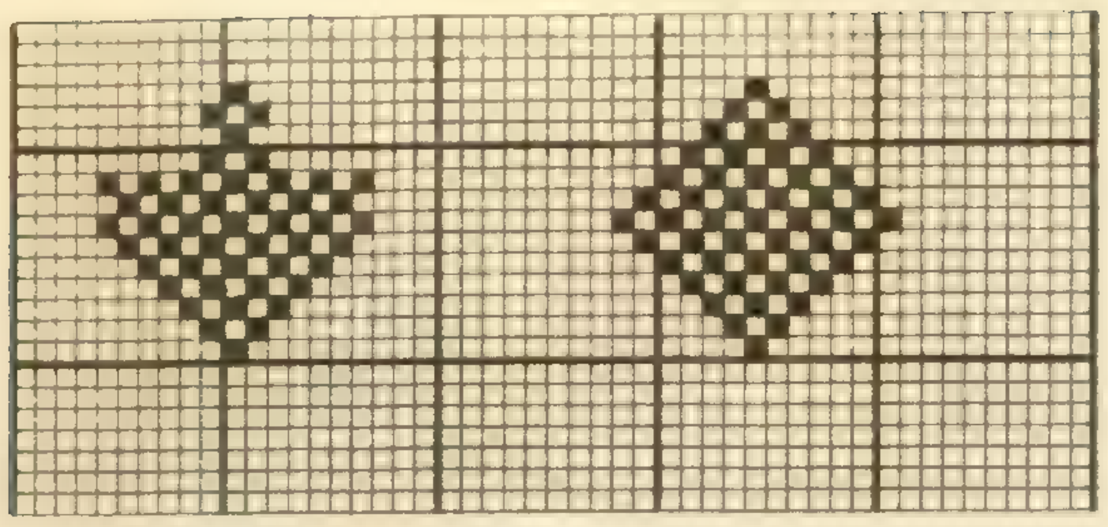

Fig. 8.
Dissimilar Spots

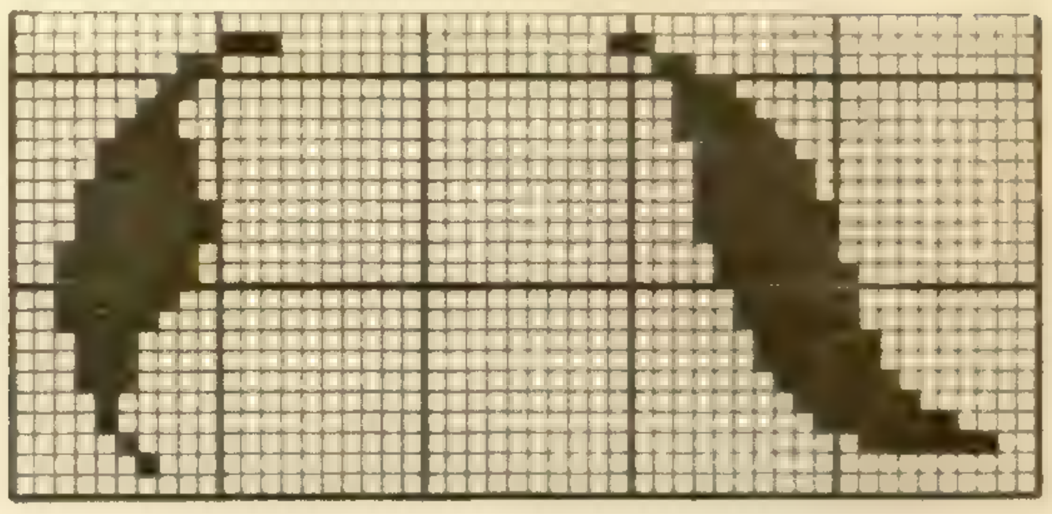

Fig. 9.
Dornock

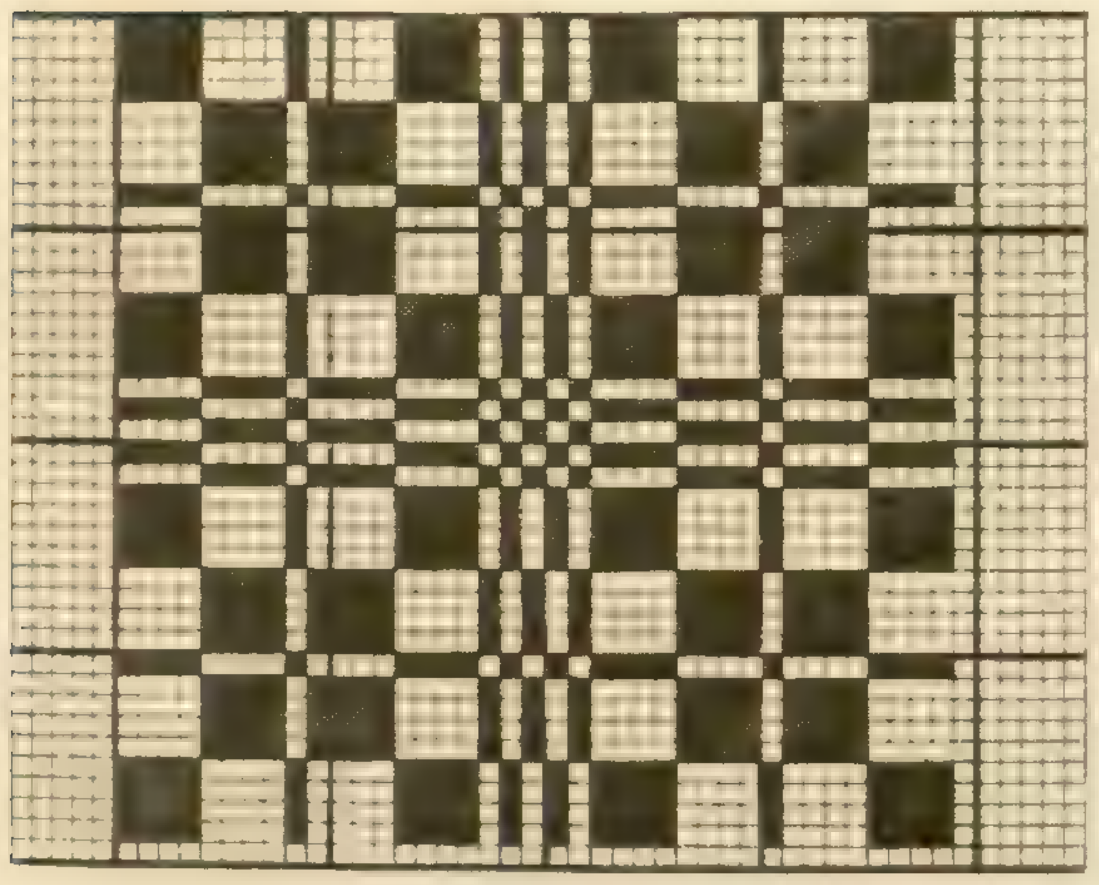

Fig. 10.
Dimity

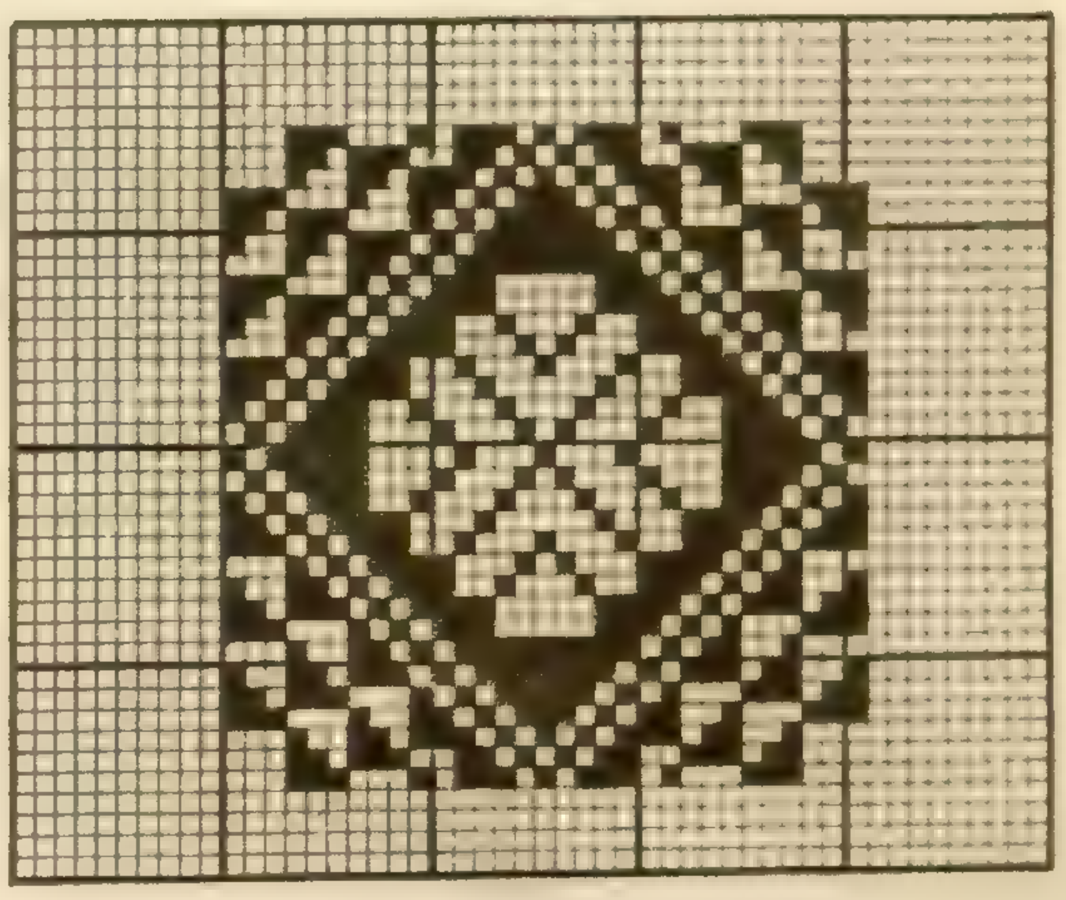

Fig. 11.
Damask

...by John Duncan.

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Engraved by Wilson Lowry

MISCELLANY.

DIAGONAL MOTION.

Fig. 1.

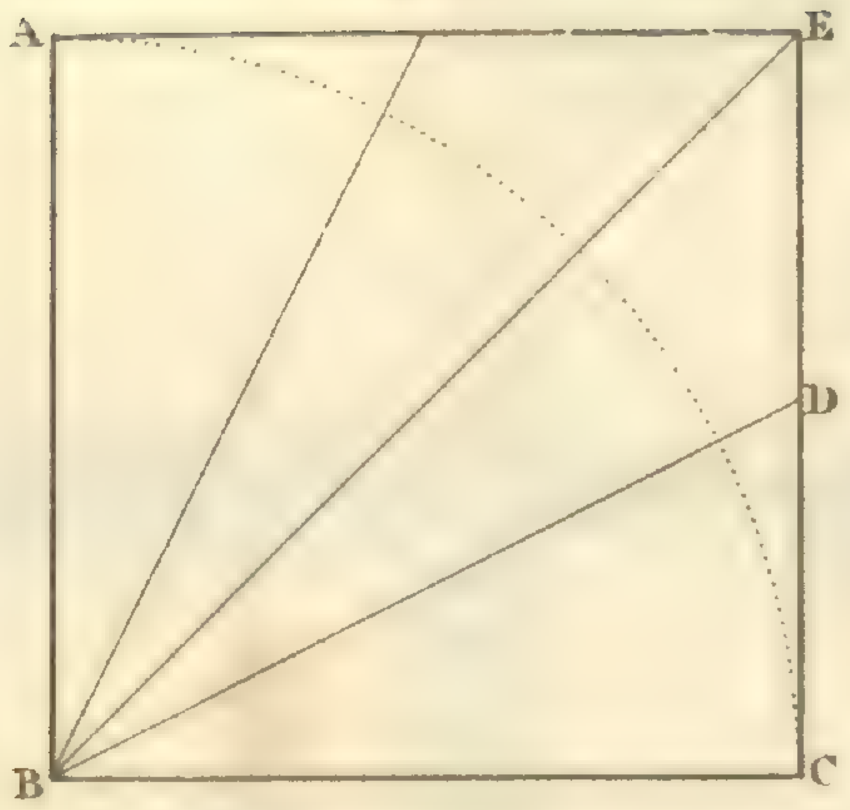


Fig. 2.

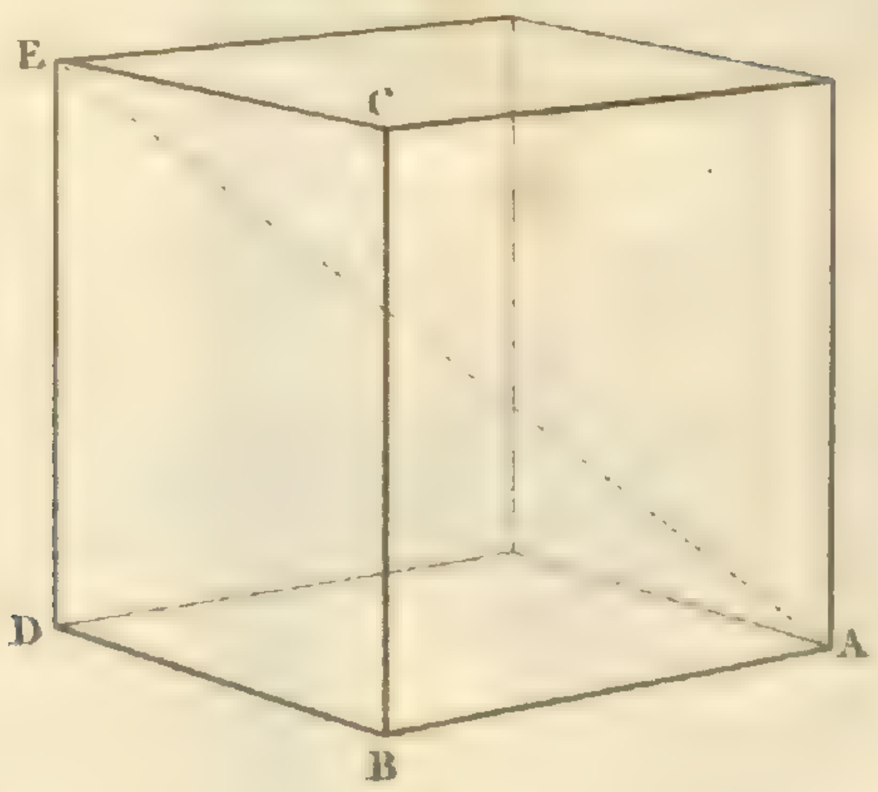


Fig. 3.

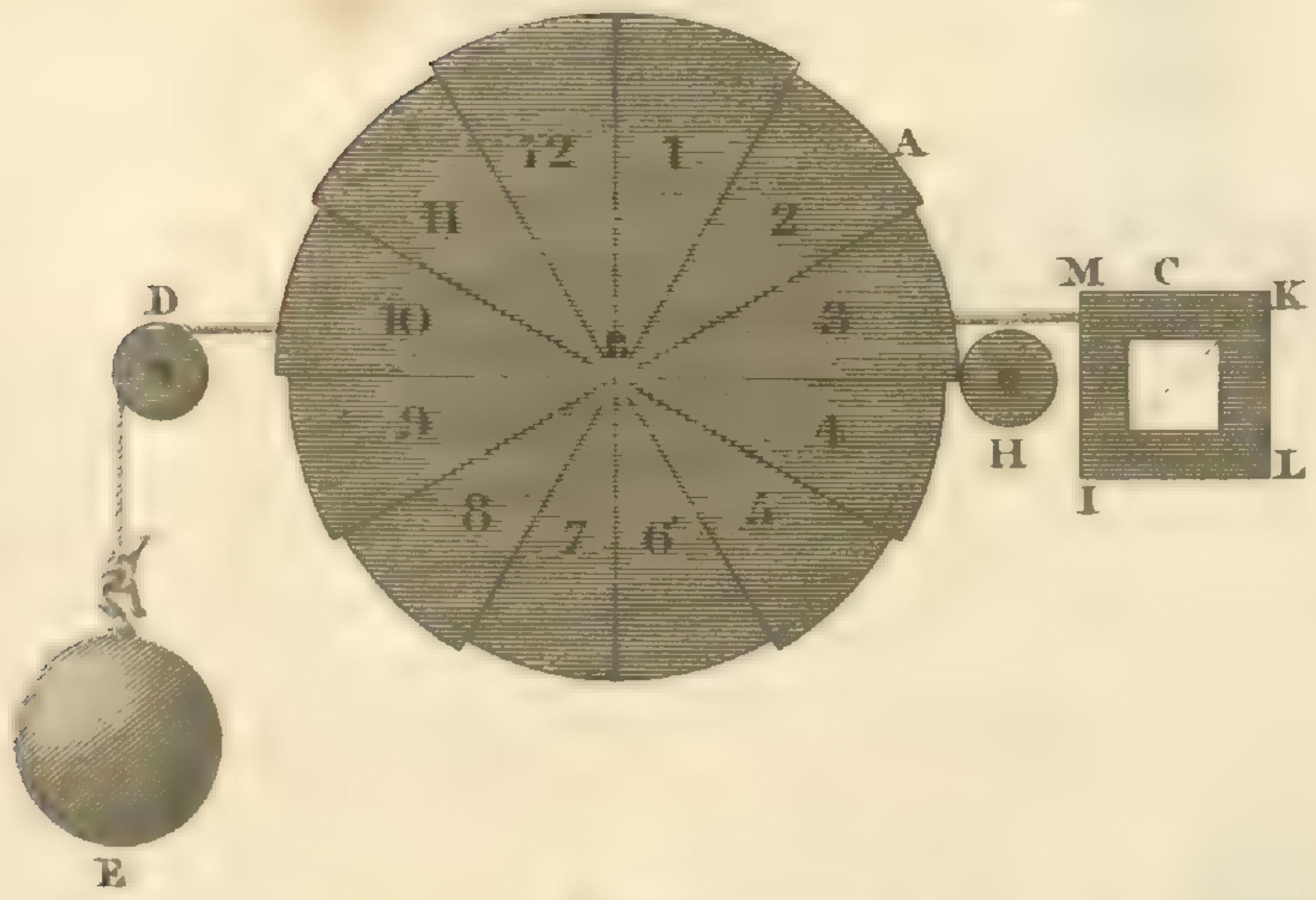


Fig. 4.

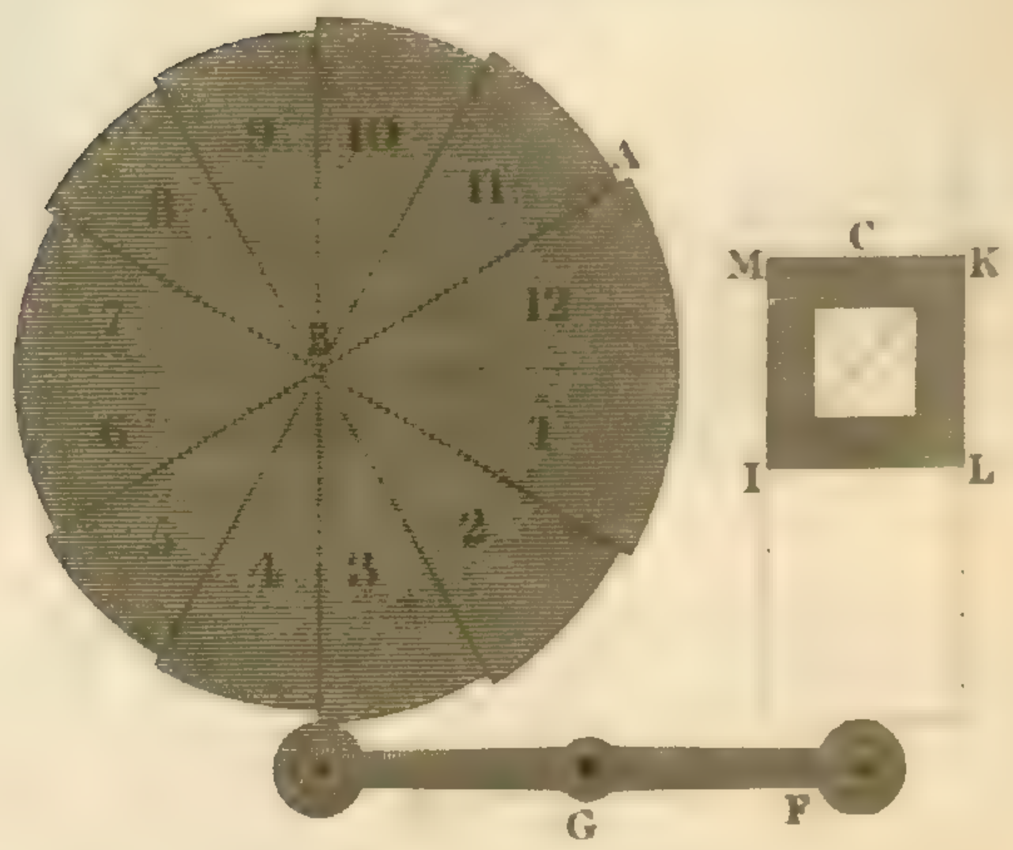
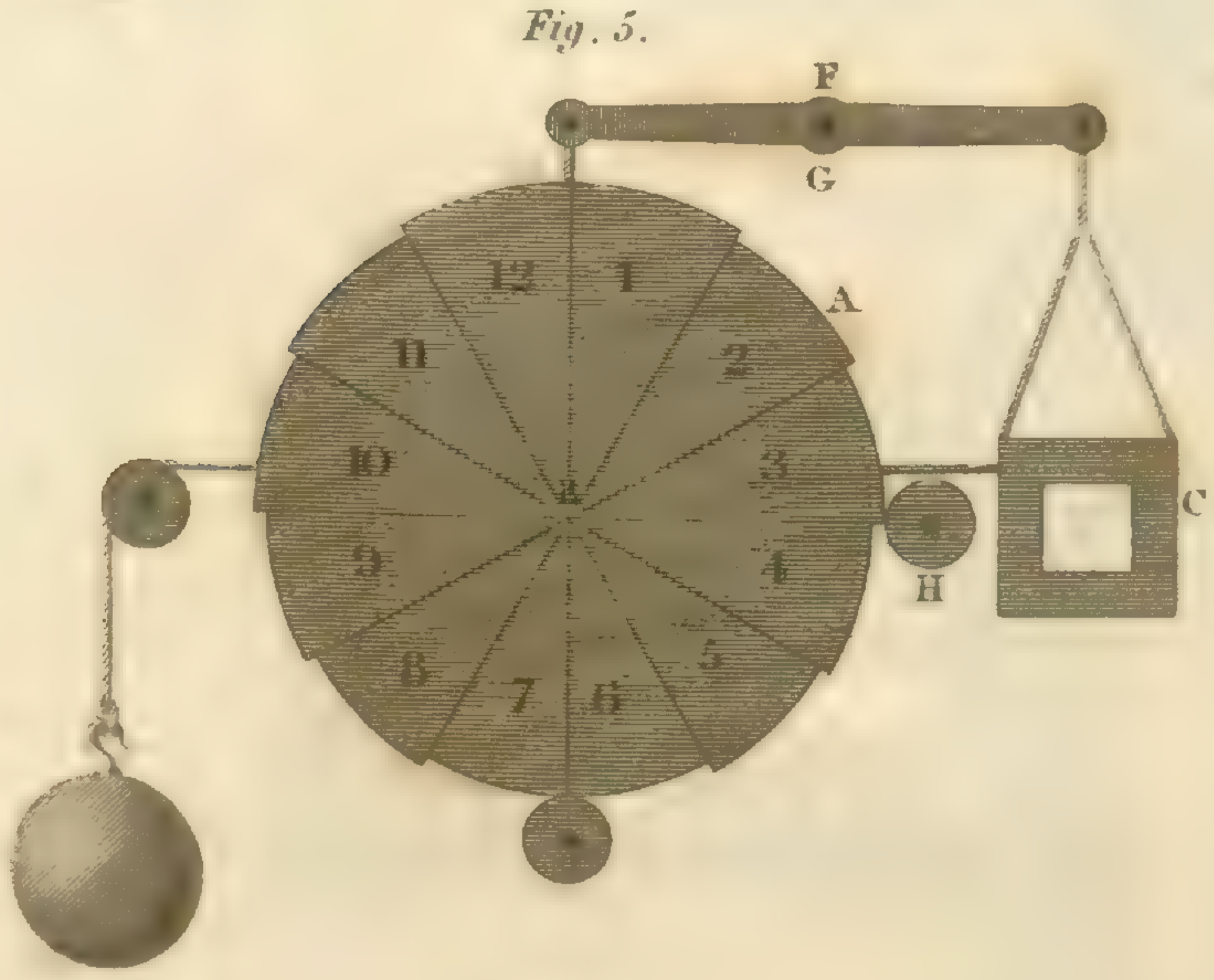


Fig. 5.



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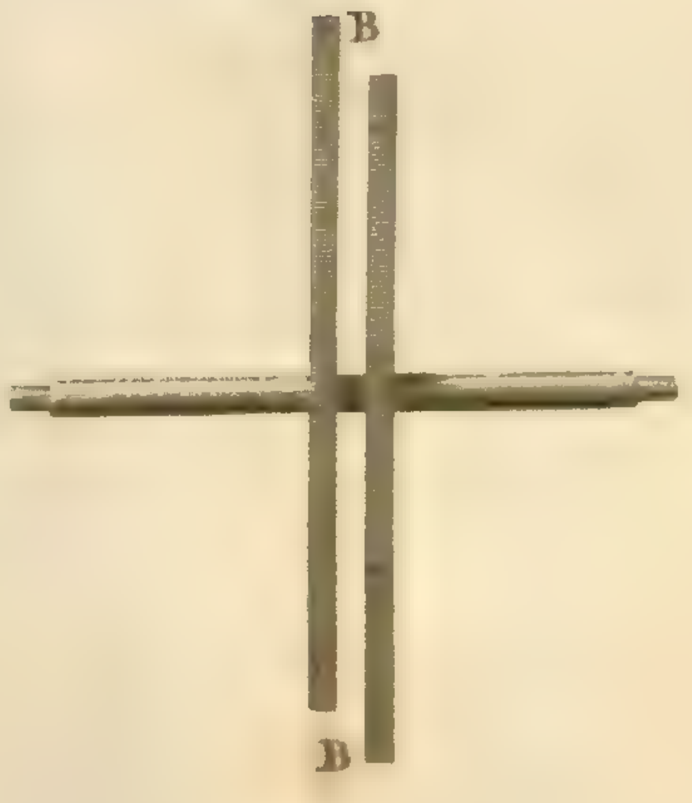


Fig. 7.

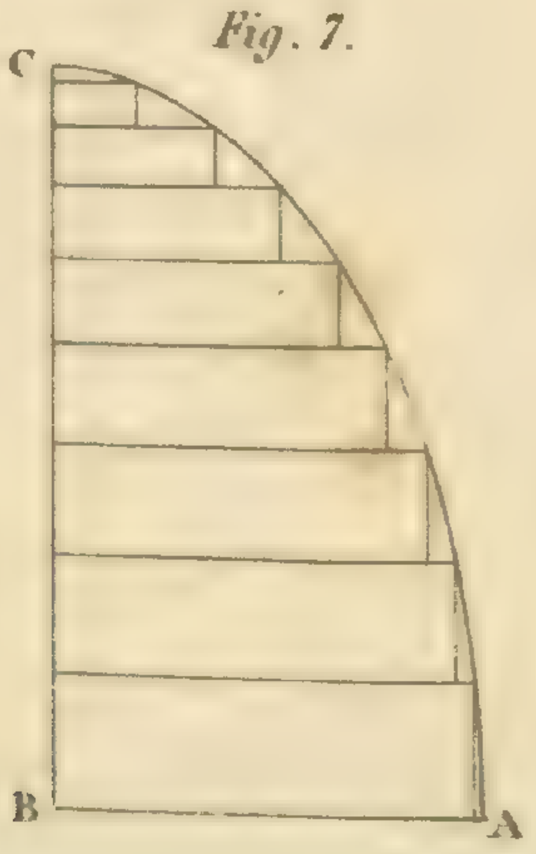
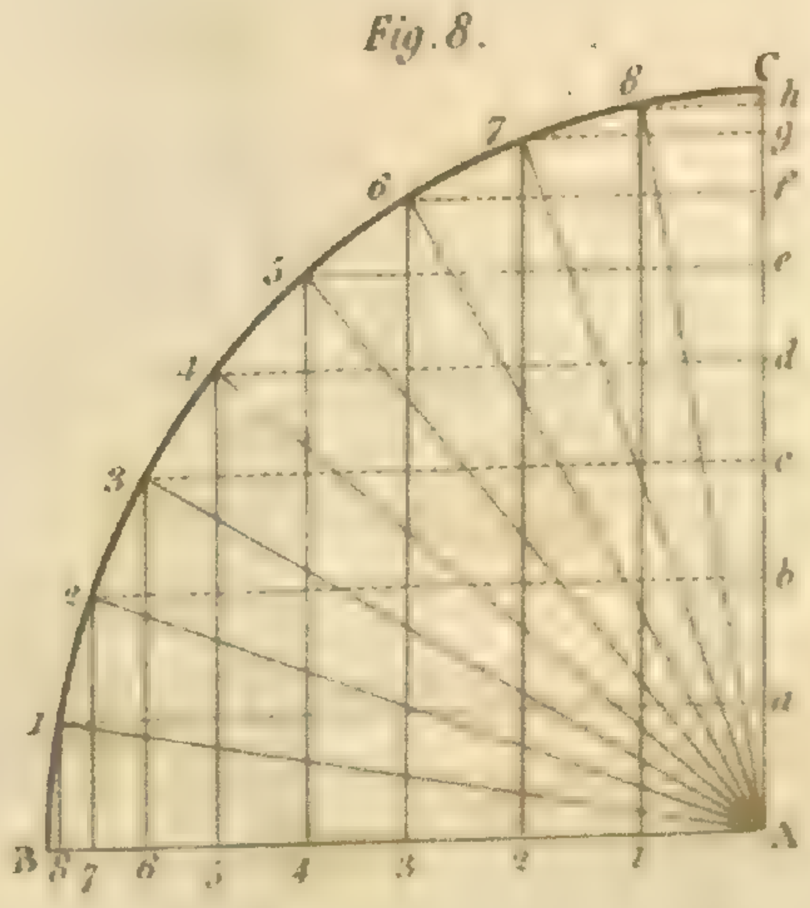


Fig. 8.



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Engraved by Wilson Low

DIAGONAL MOTION.

Dividing and Cutting Engine.

Fig. 20.

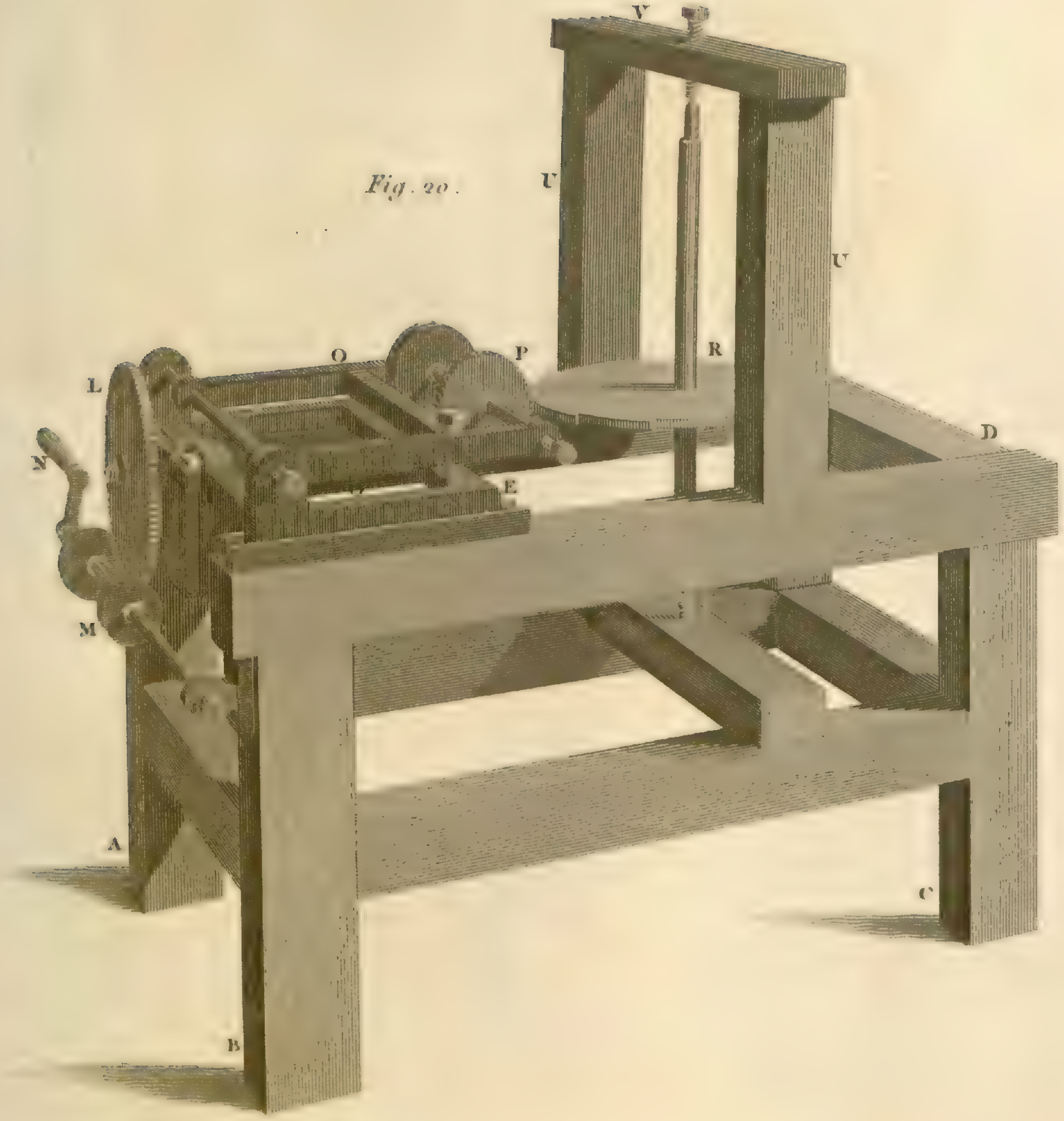


Fig. 19.

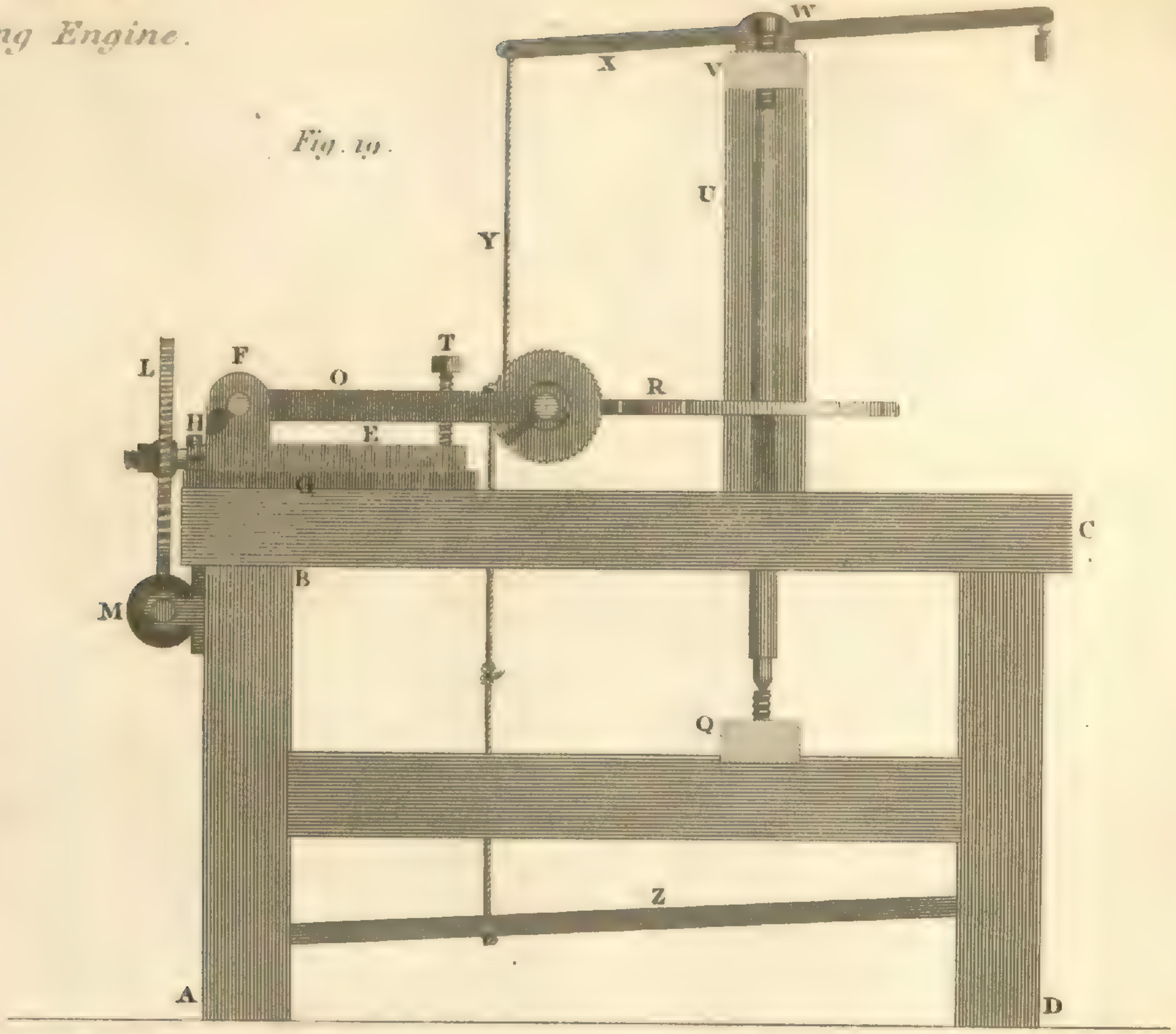
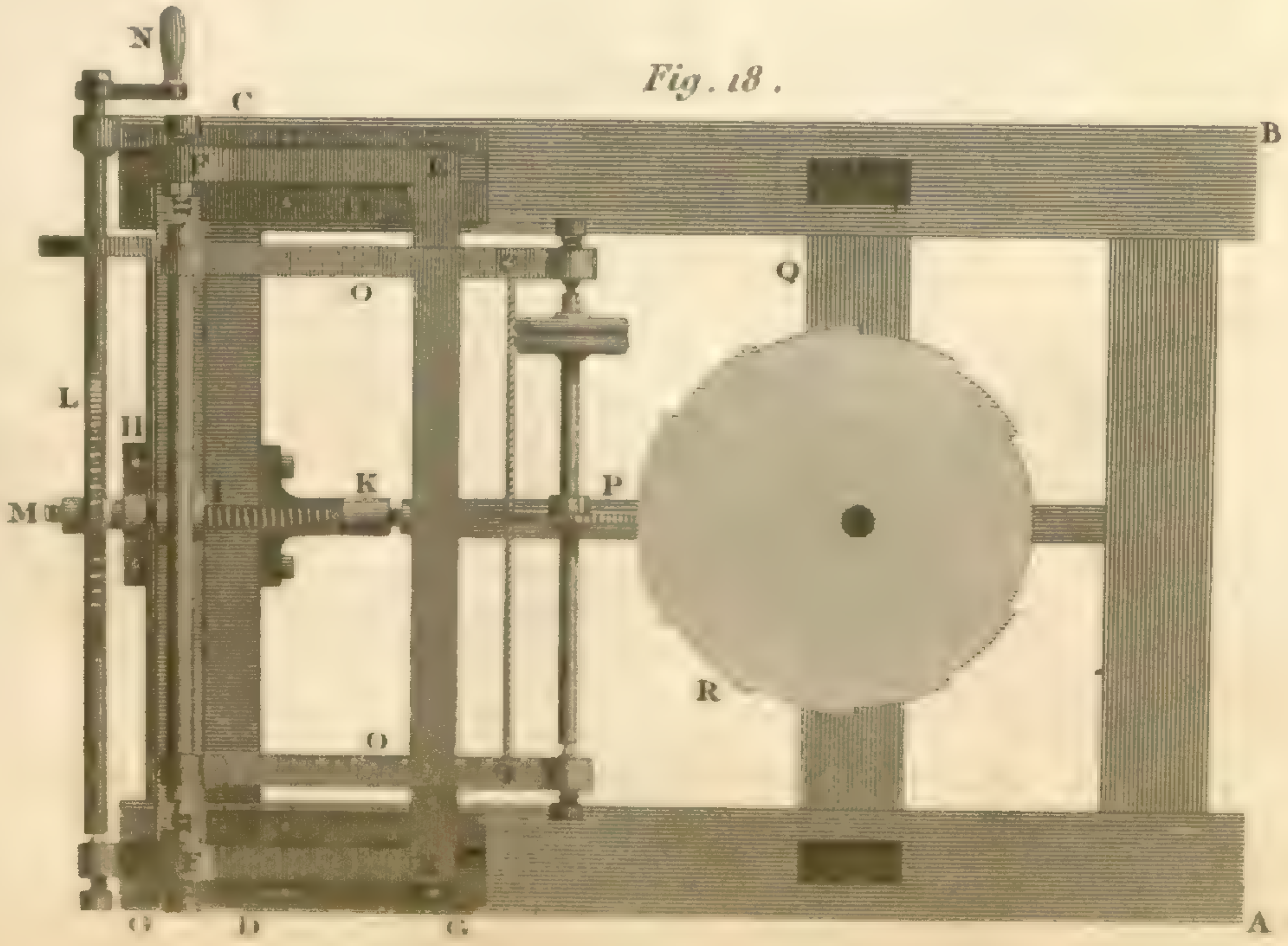


Fig. 18.



Duncan del.

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DIAGONAL MOTION.

Invented and Drawn by John Duncan. Engraved by Wilson Lowry.

Published as the Act directs, 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

DIAPER LOOM.

Fig. 1.

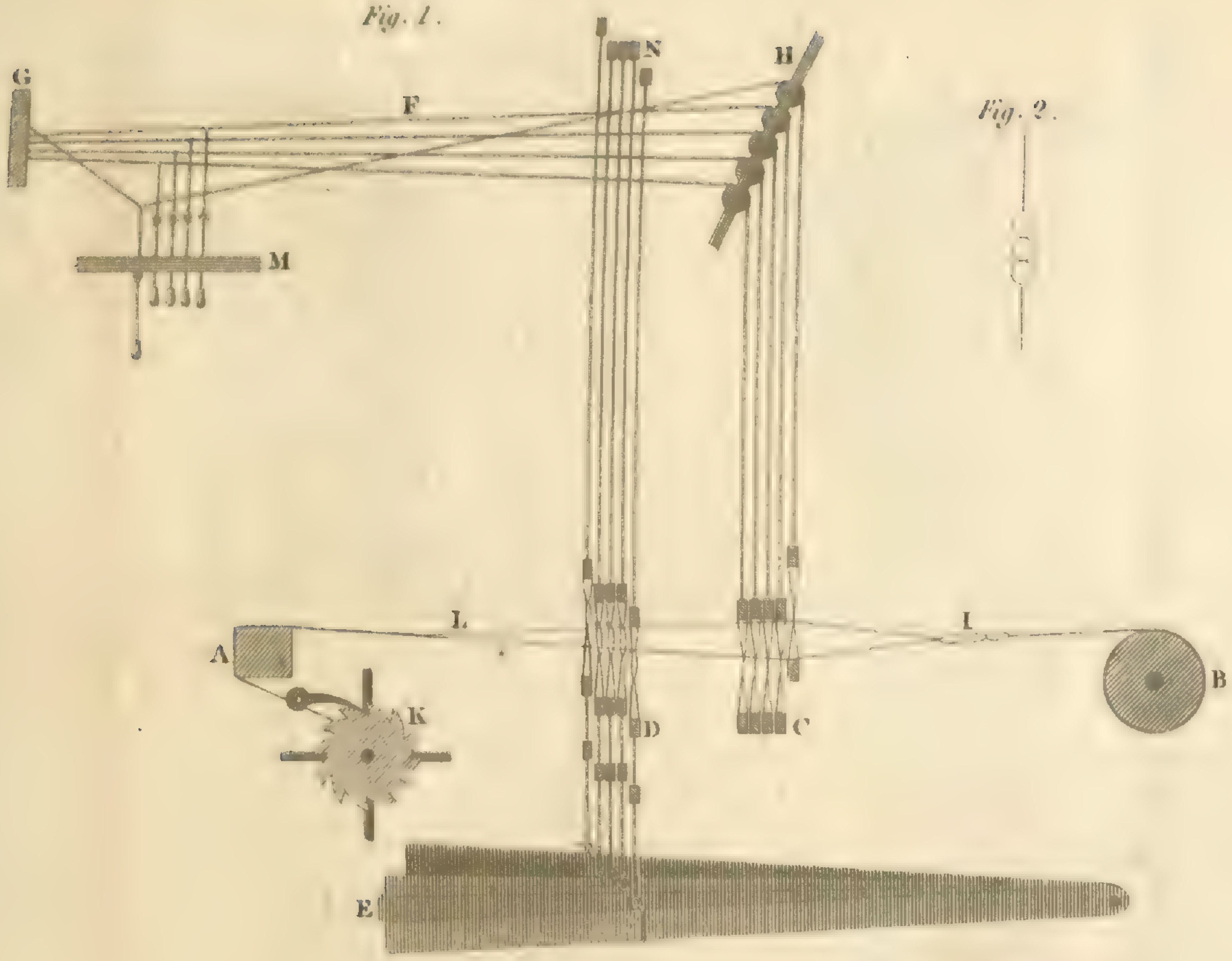


Fig. 2.

DRAW LOOM.

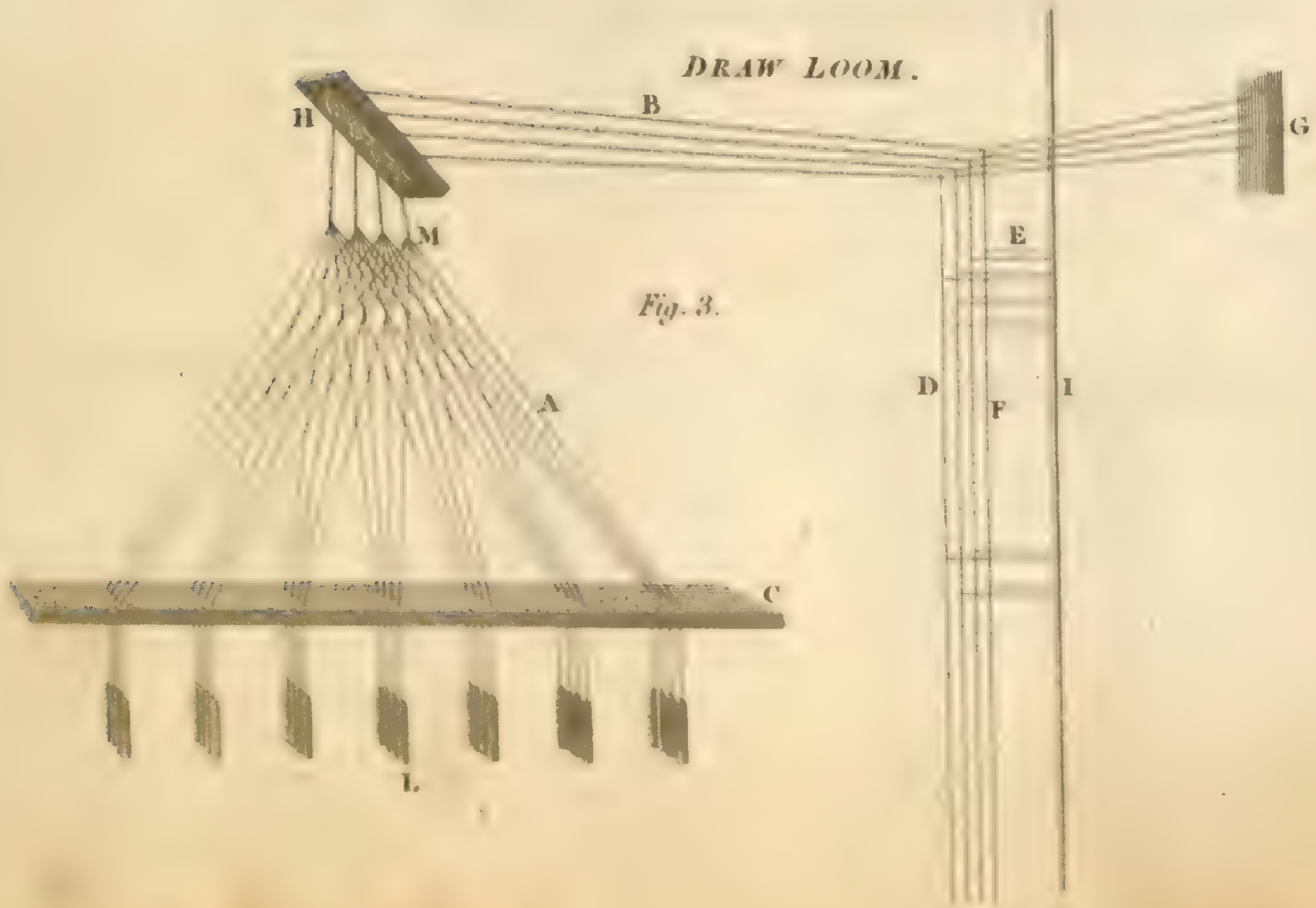
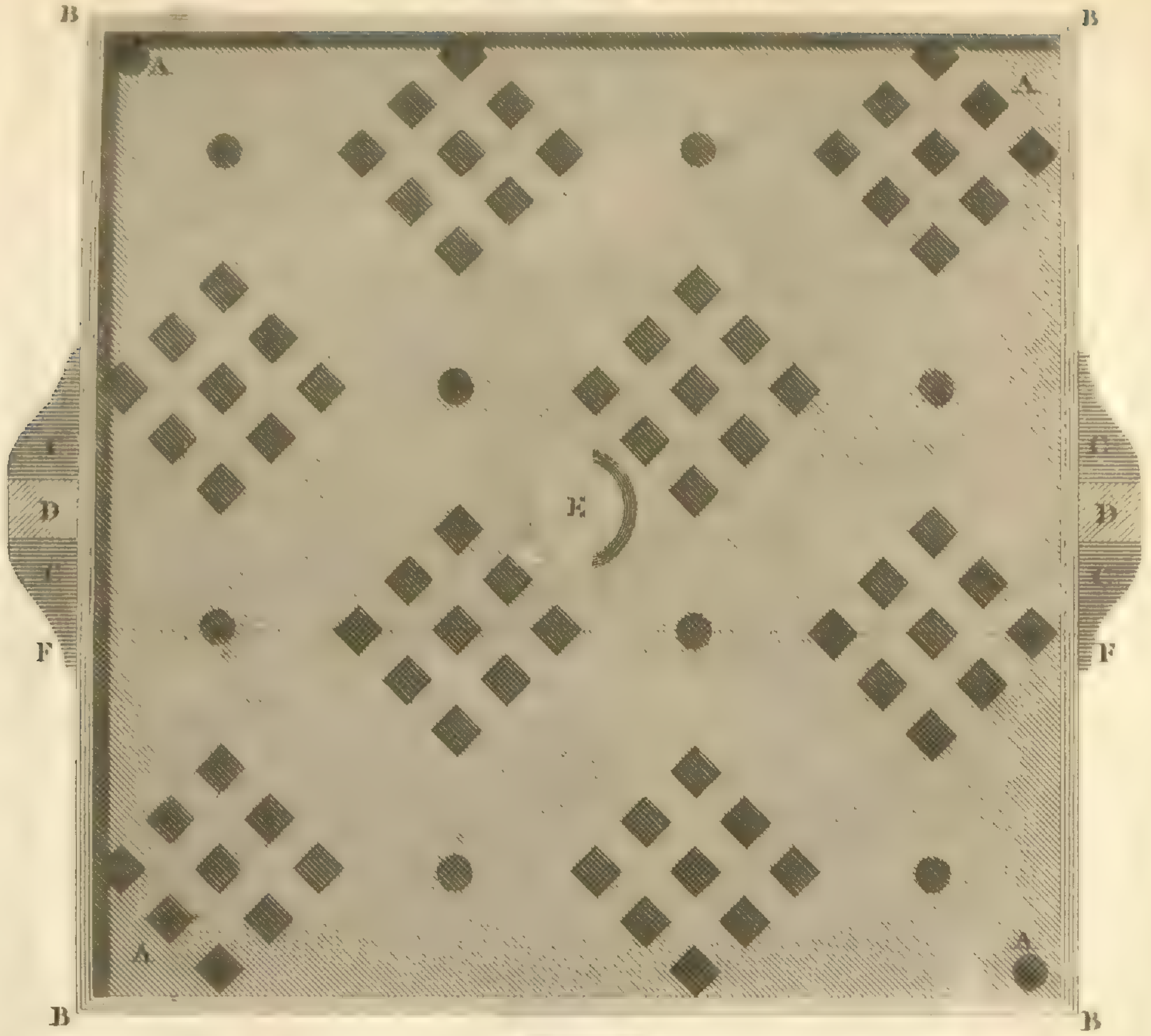


Fig. 3.

Fig. 3

PLAN

DISCHARGING PRESS.



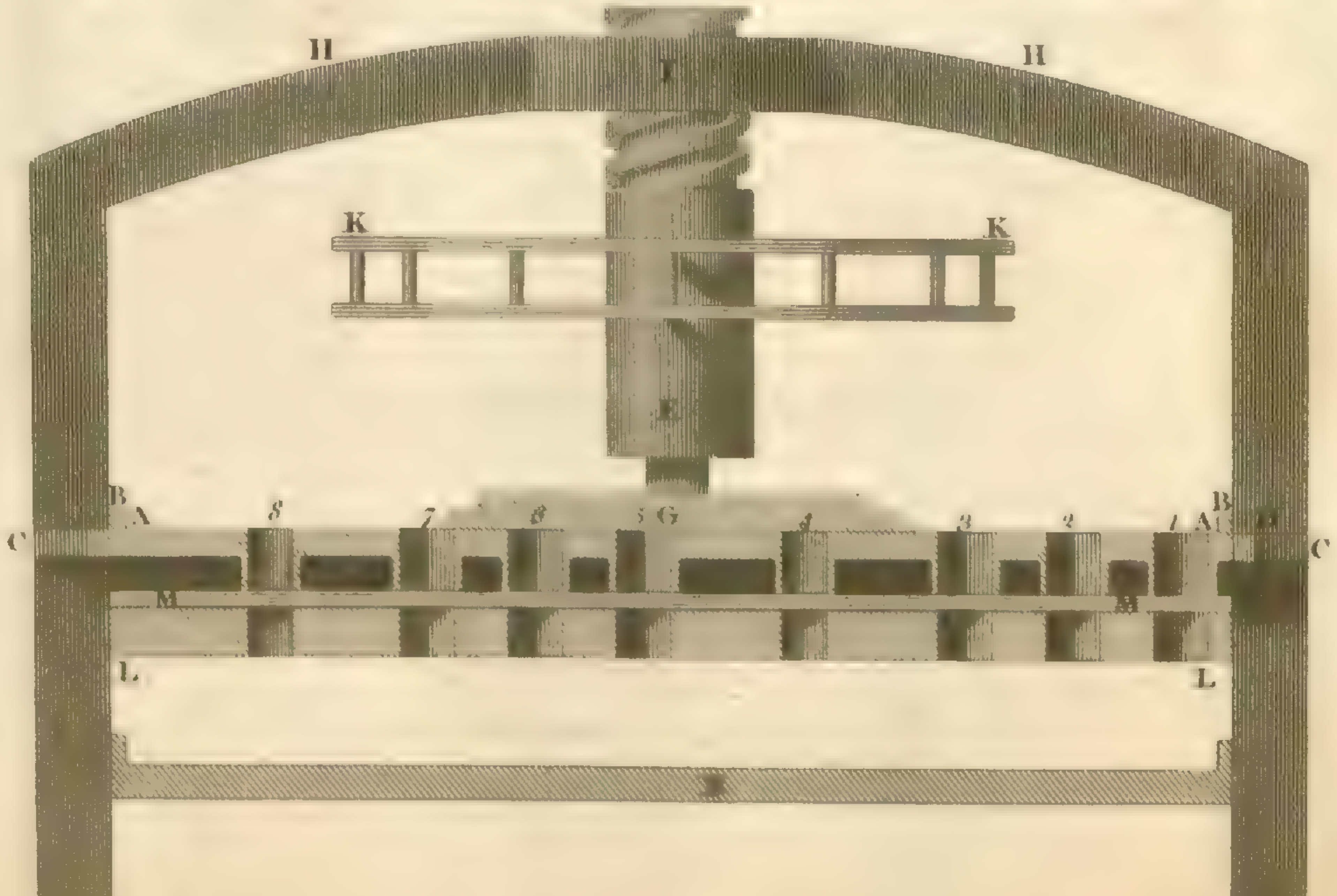


Fig. 4.

Section thro' the line F. F. of the Ground Plan.

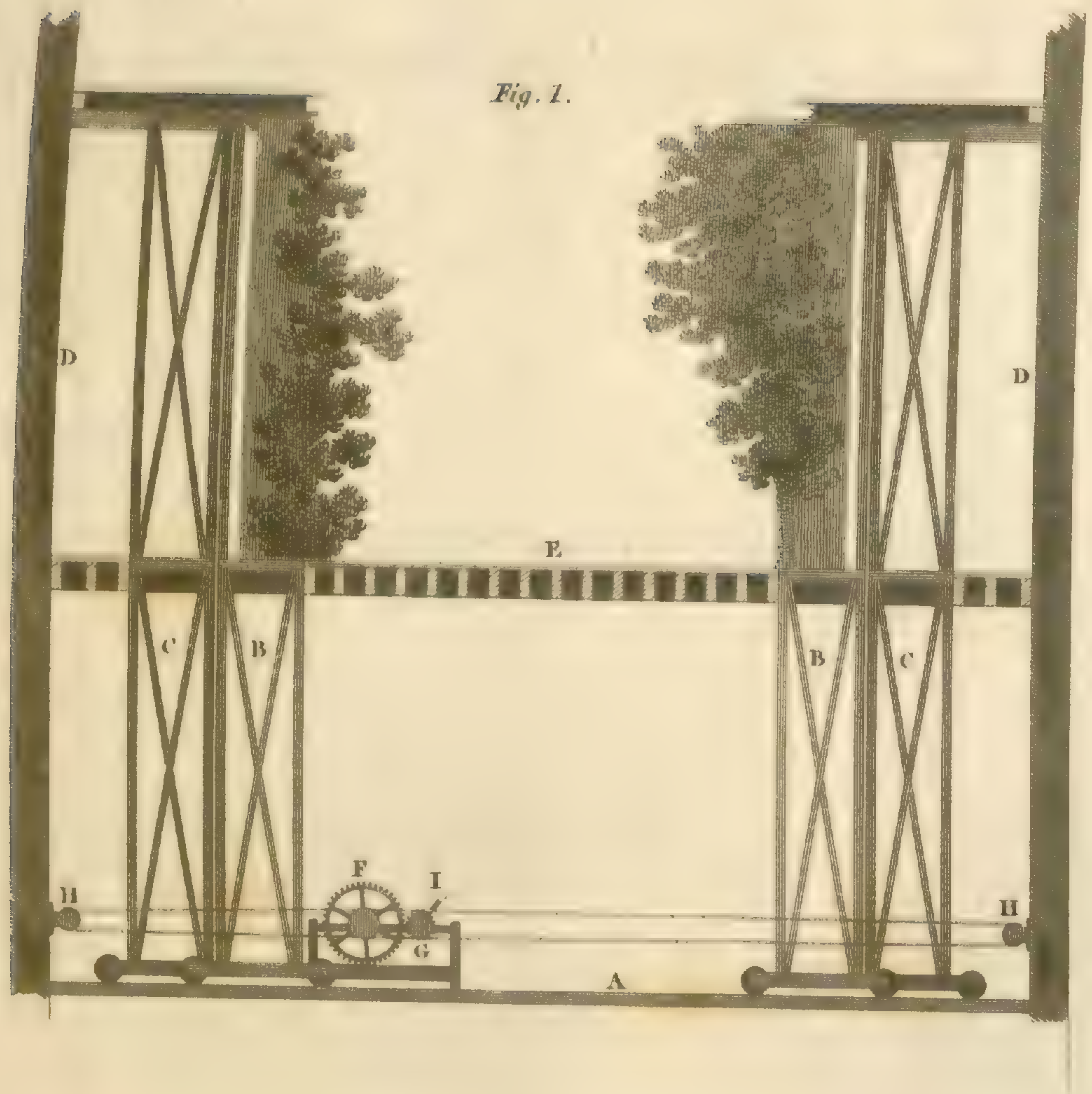


Fig. 1.

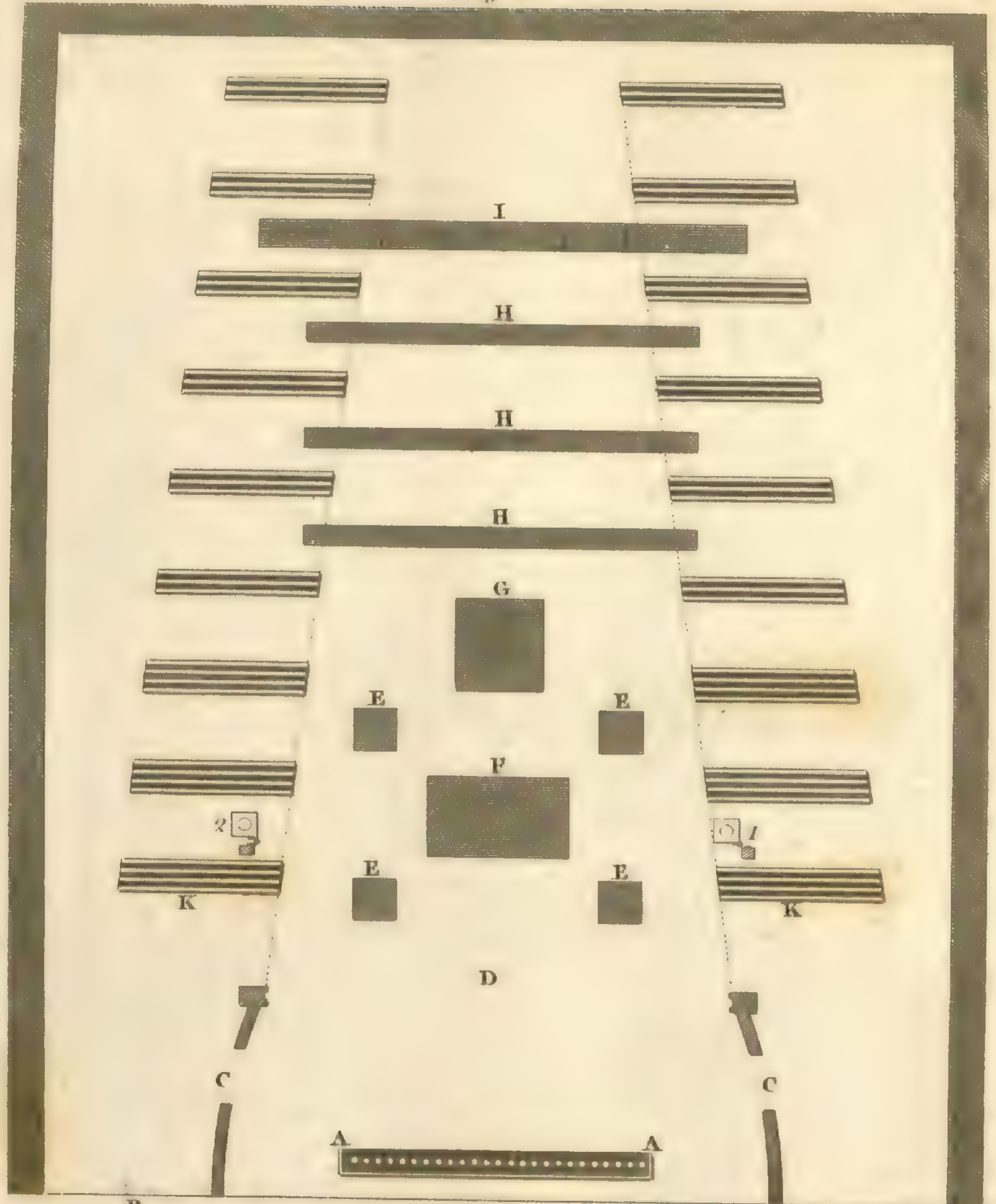
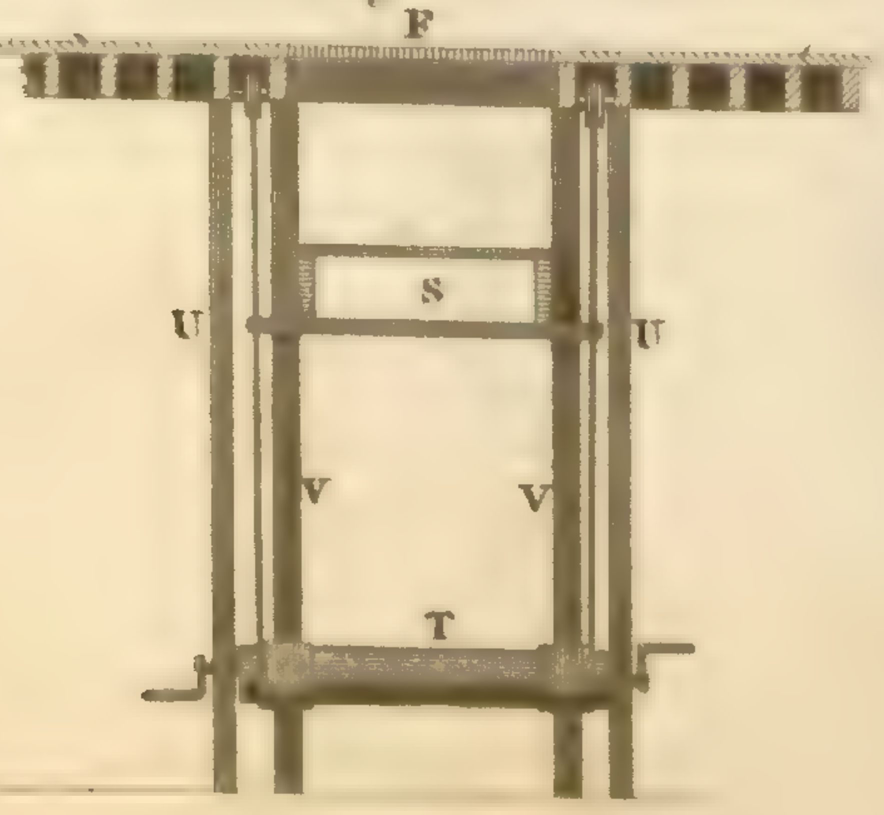
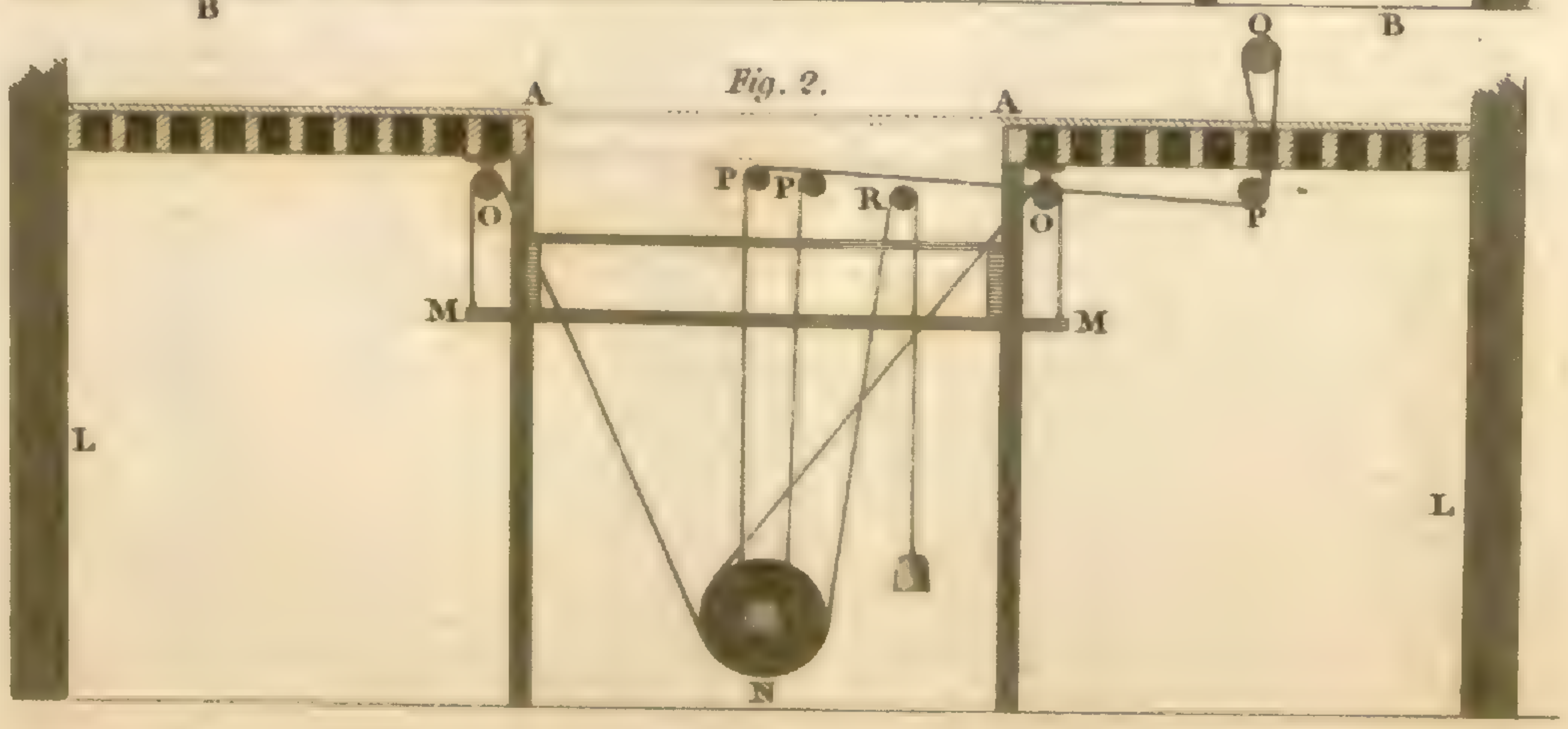


Fig. 4.

Fig. 3.





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MISCELLANIES.

DRAMATIC MACHINERY.

PLATE X.

Fig. 2.

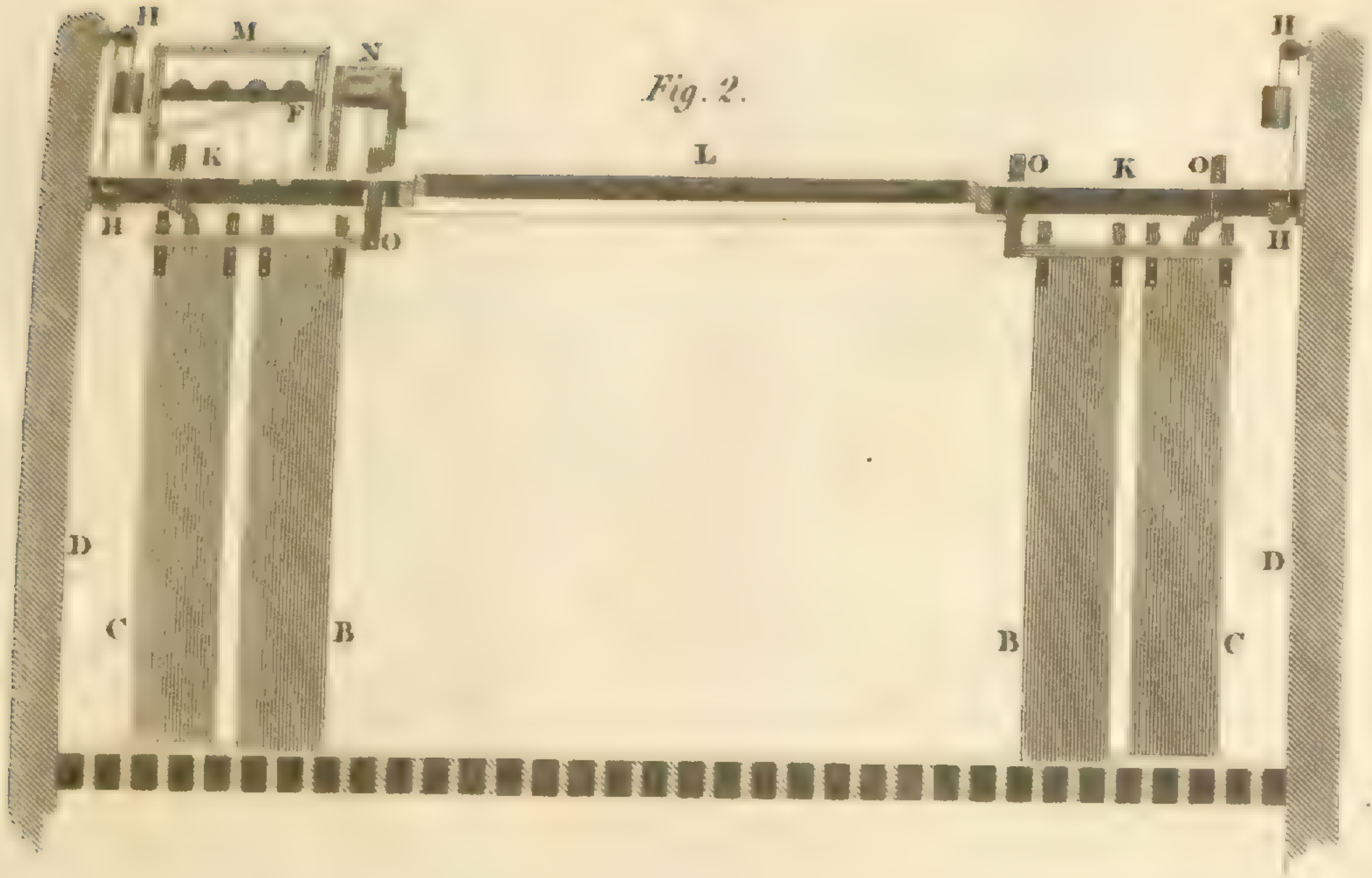


PLATE XI.

Fig. 1.

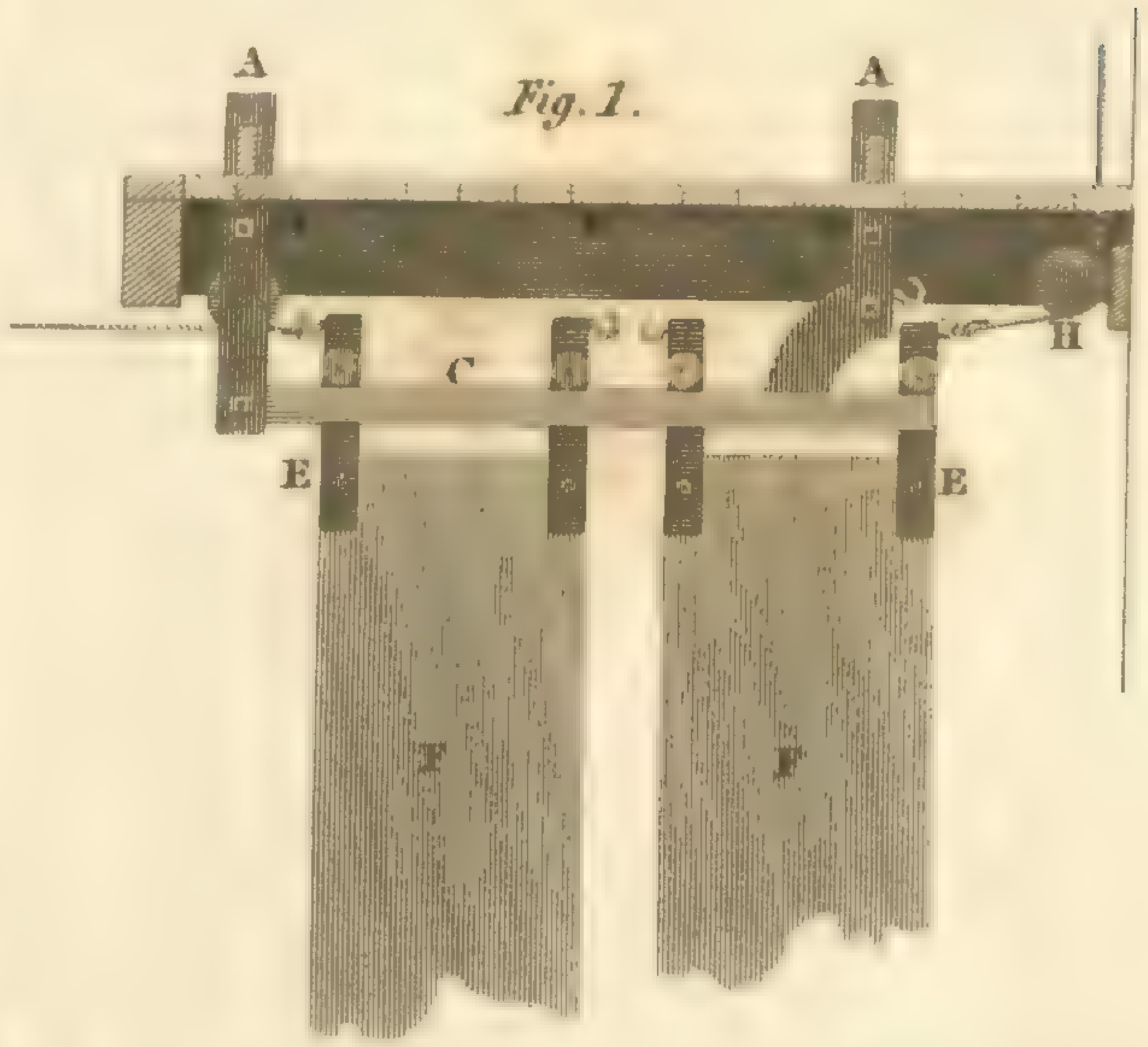


Fig. 2.

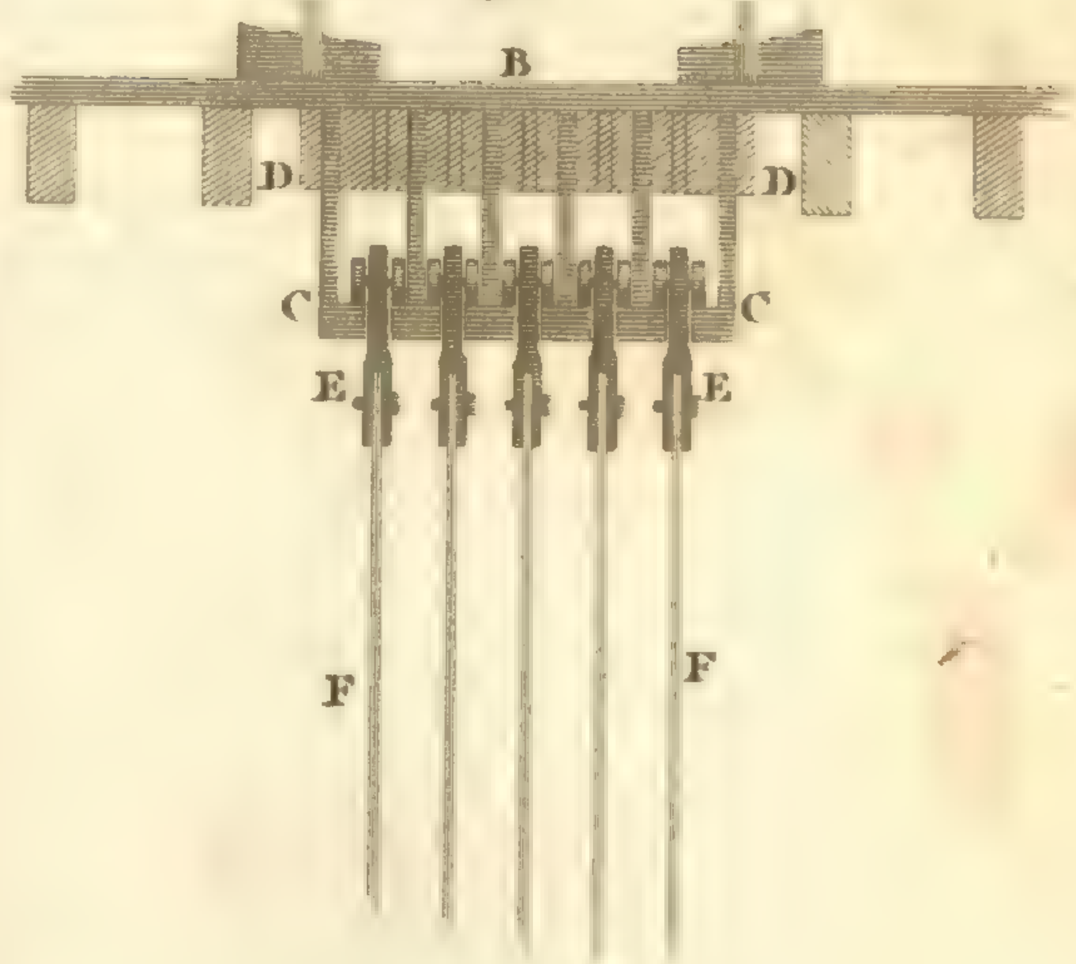


Fig. 3.

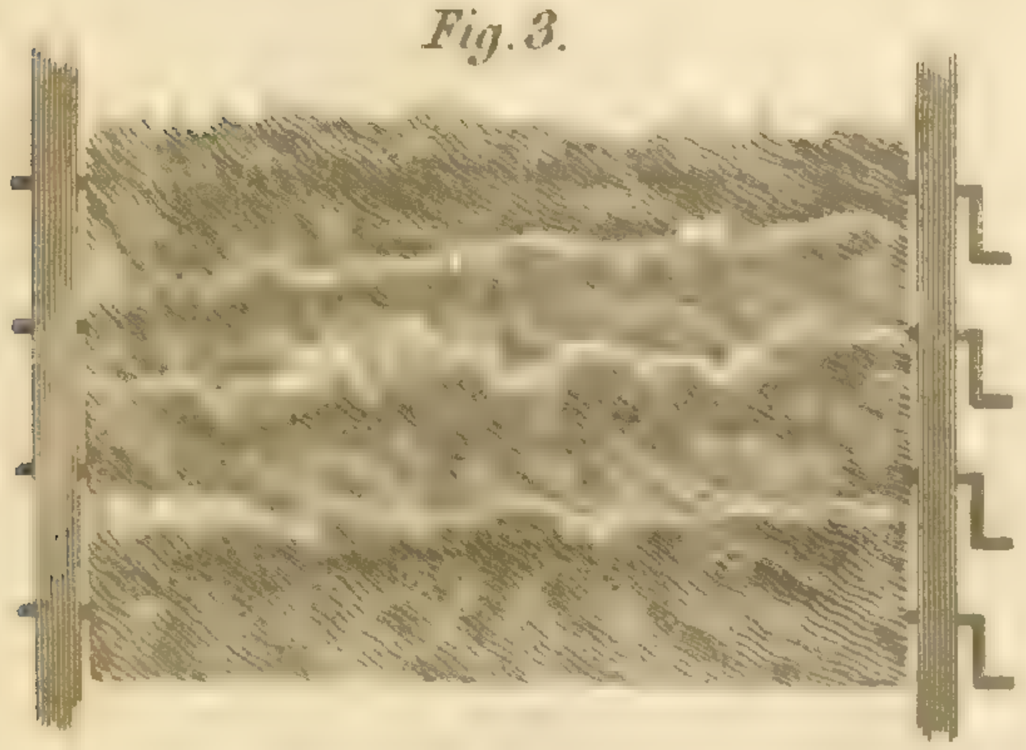


Fig. 4.

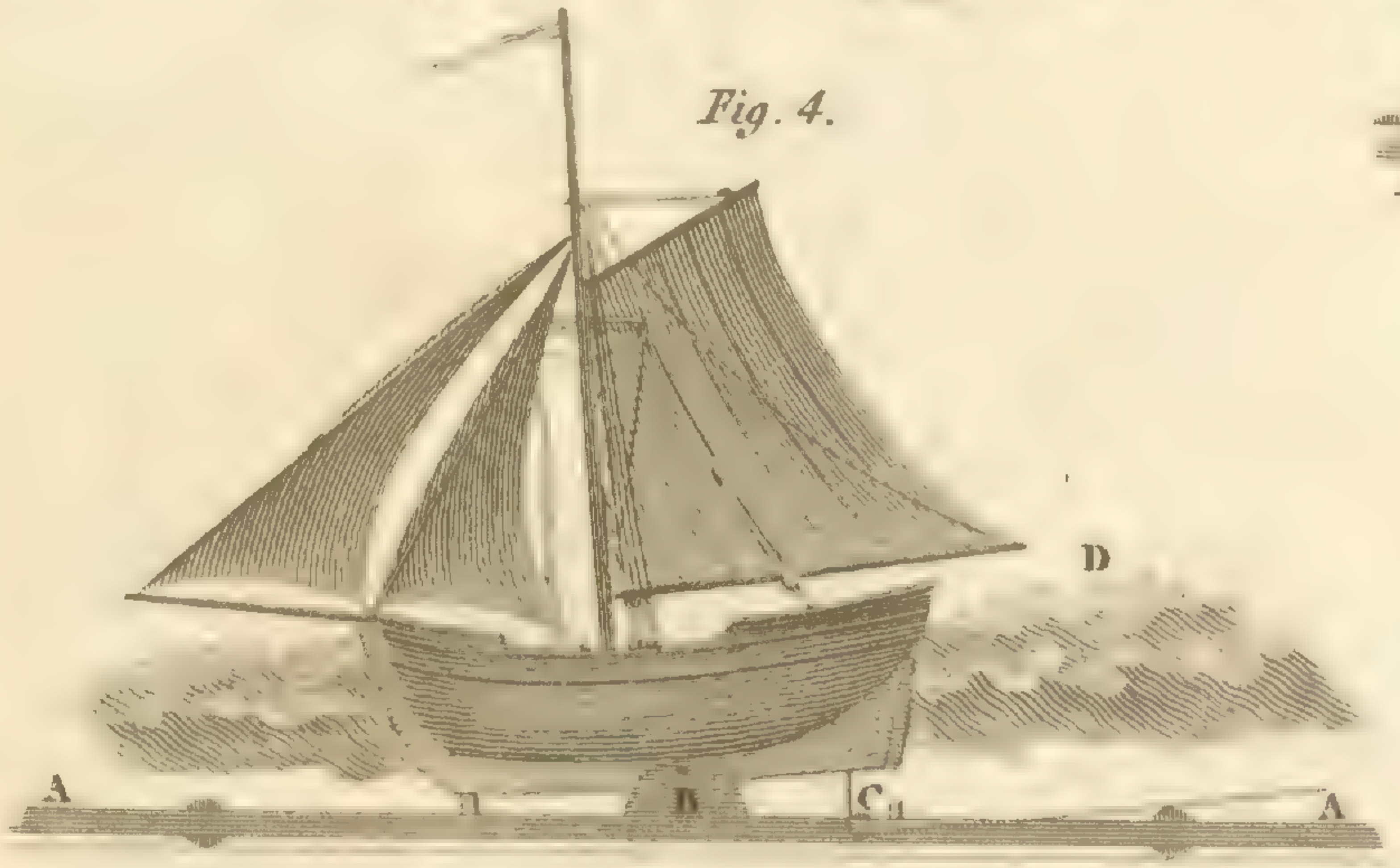


Fig. 5.

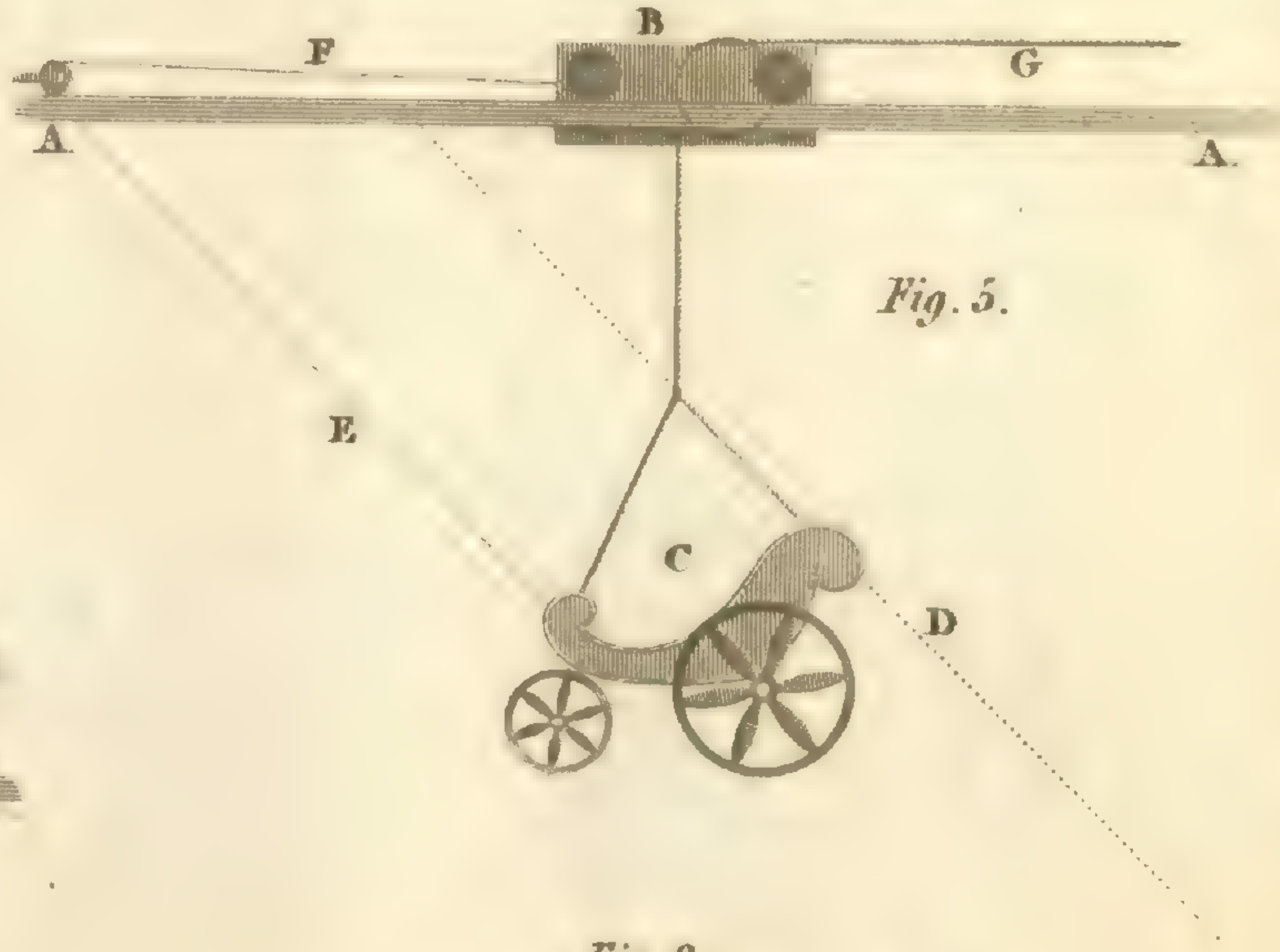


Fig. 6.

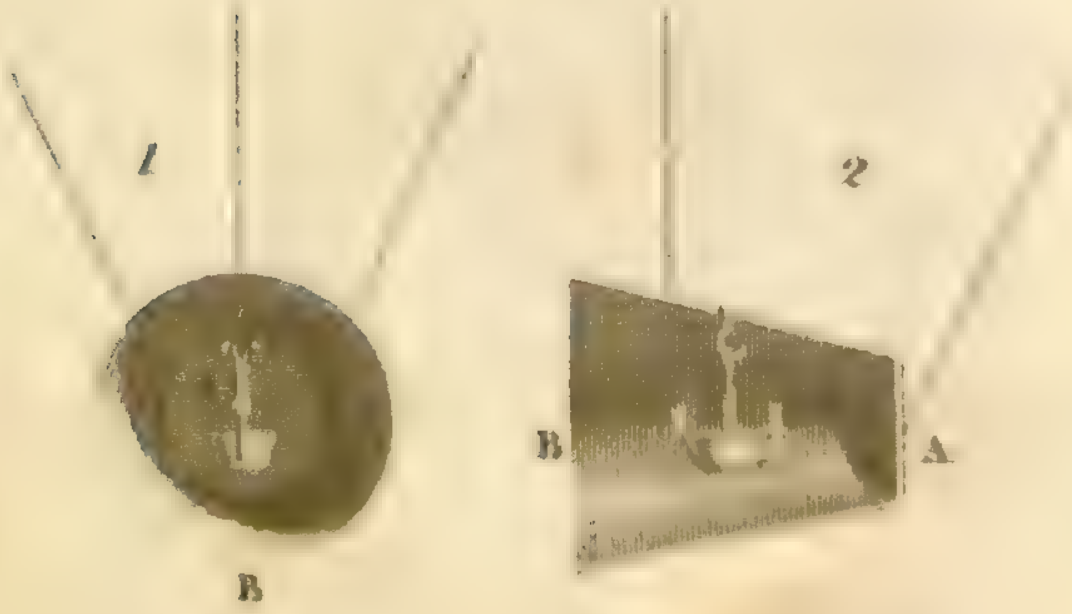
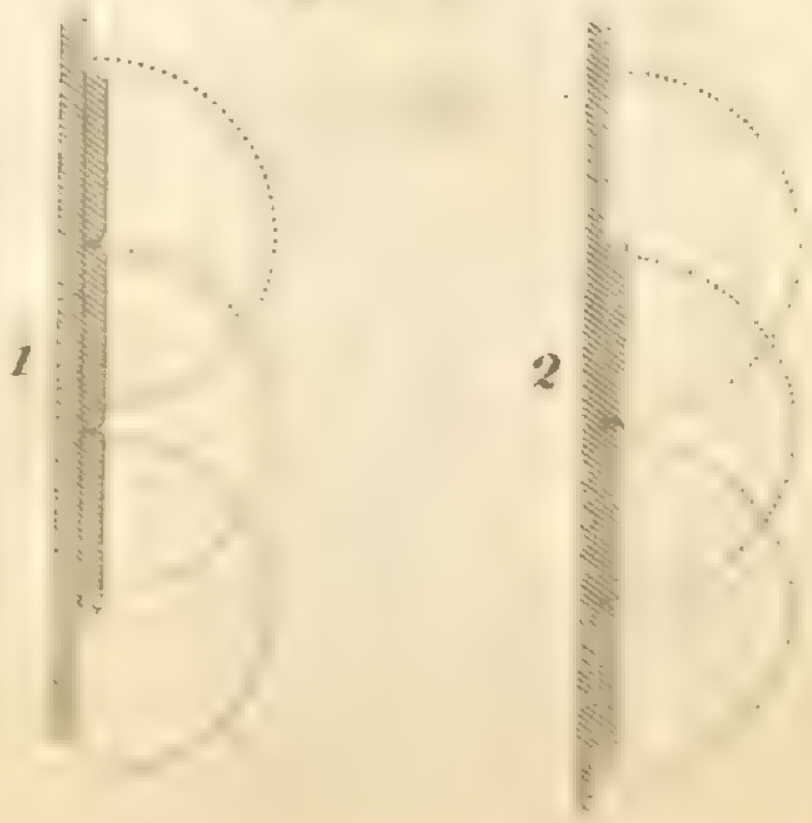


Fig. 7.

Fig. 8.



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DRAUGHT AND CORDING OF LOOMS.

Fig. 1.
5 Leaf Tweel

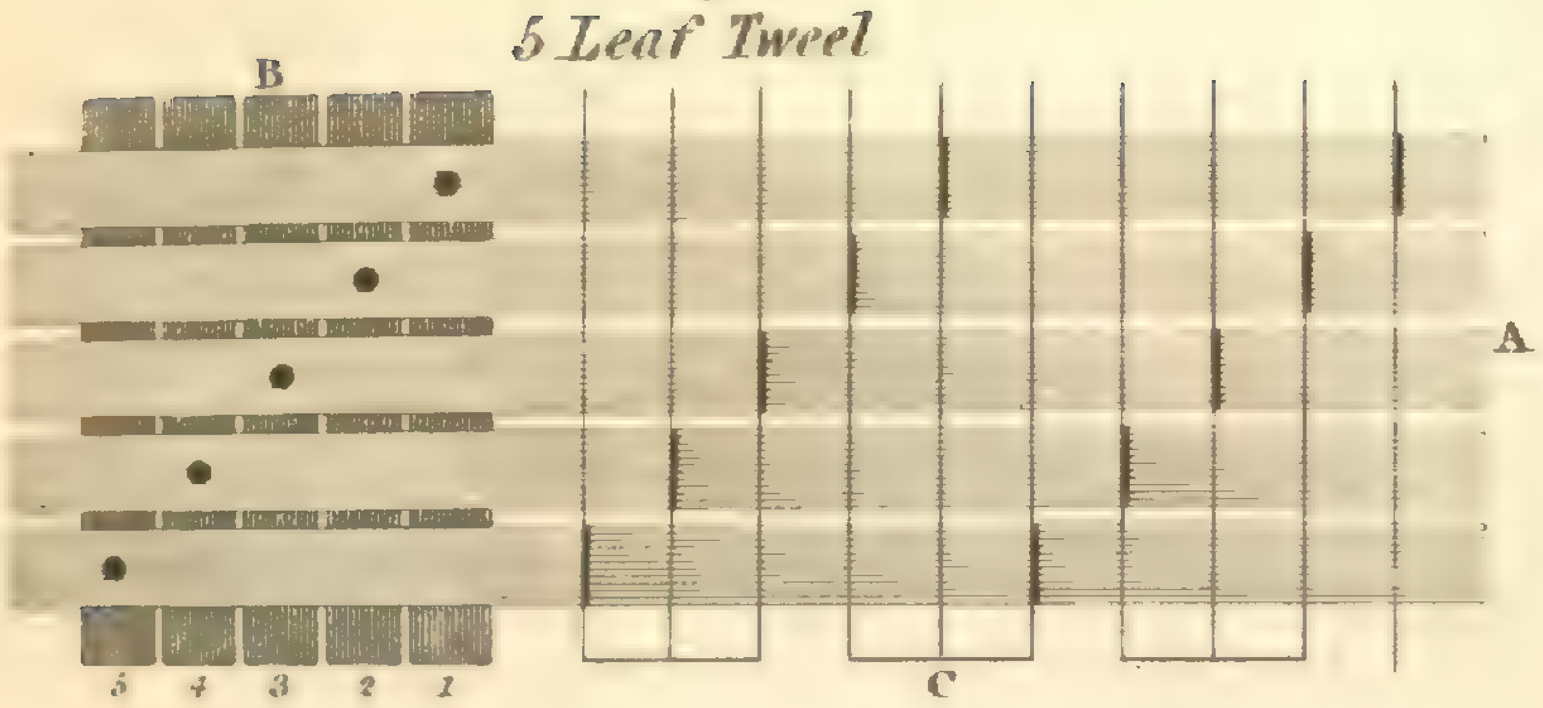


Fig. 2.
Broken Tweel

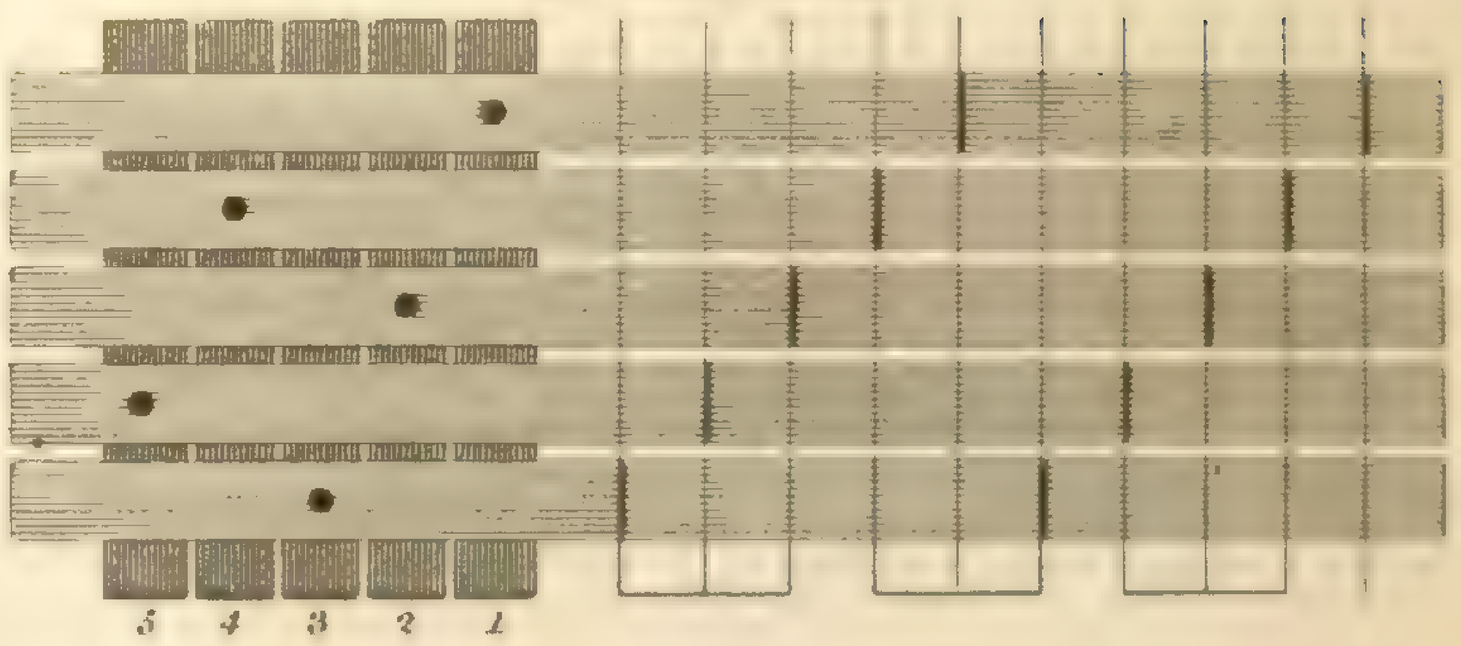


Fig. 3.
8 Leaf Tweel

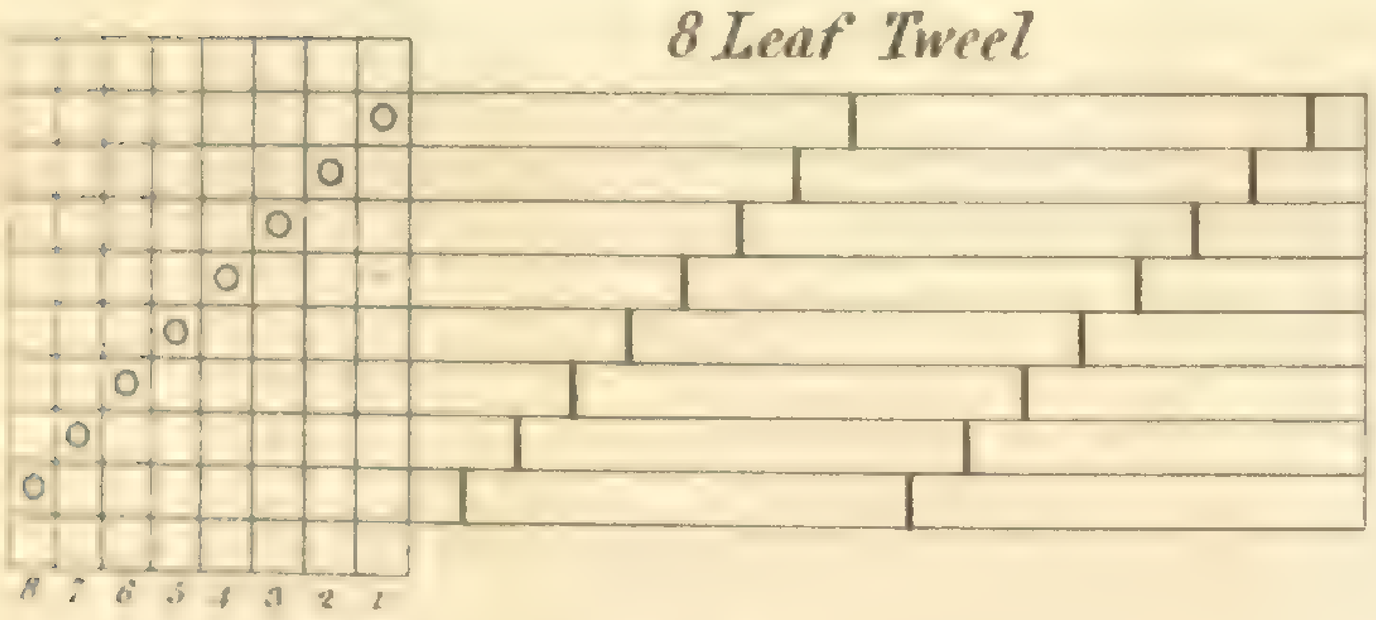


Fig. 4.
Broken Tweel

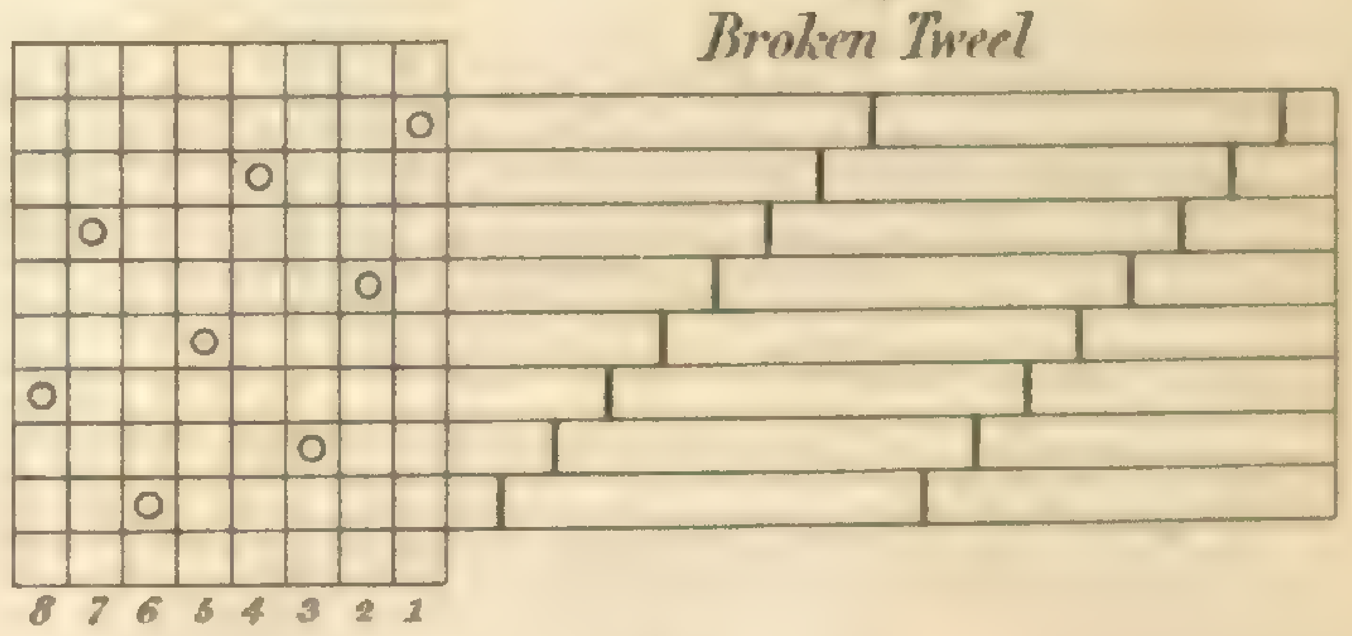


Fig. 5.
Striped Dimity

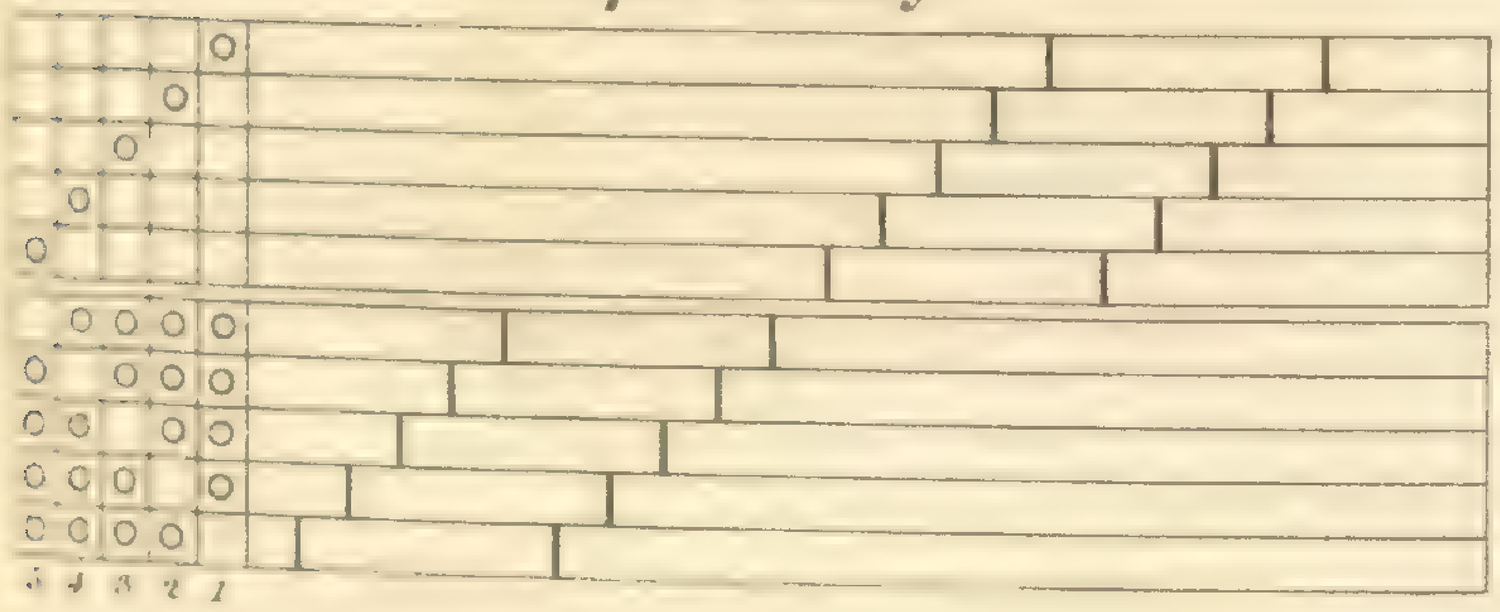


Fig. 6.
Dornock

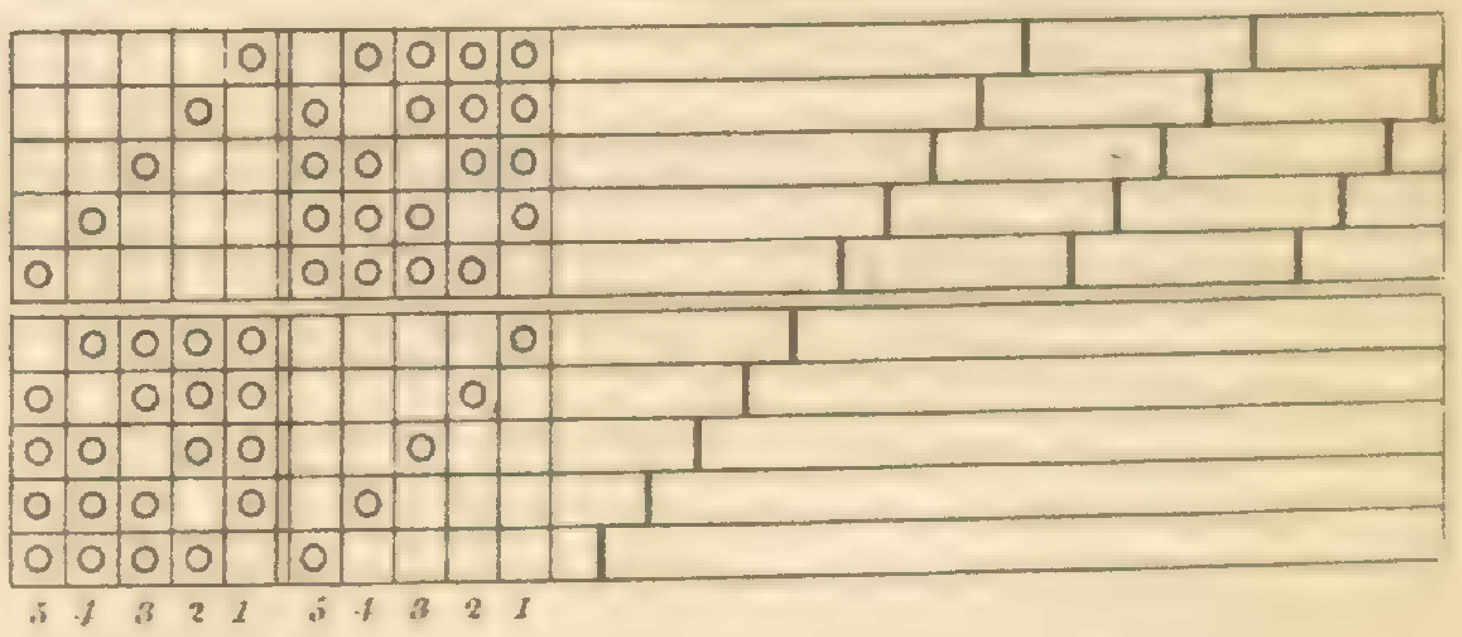


Fig. 7.
Fancy Dimity

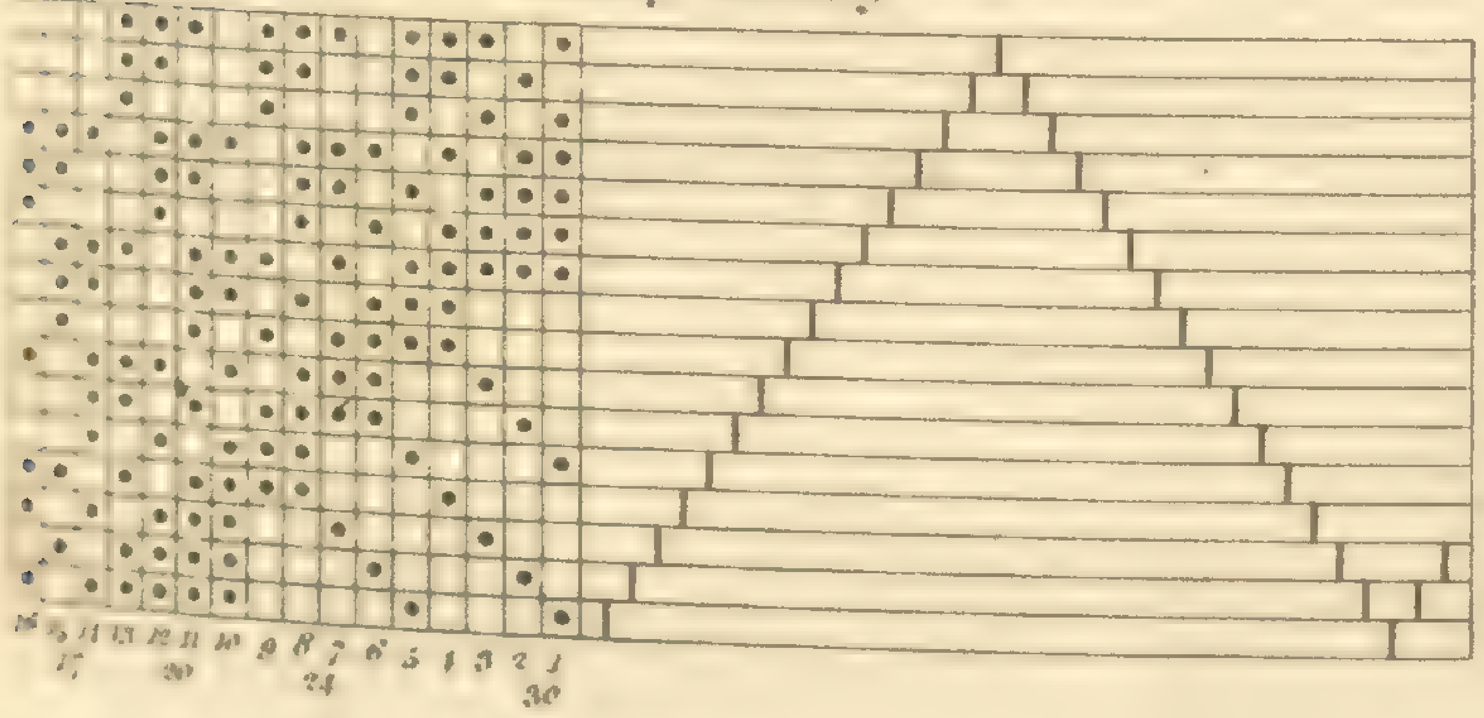


Fig. 8.
Diaper

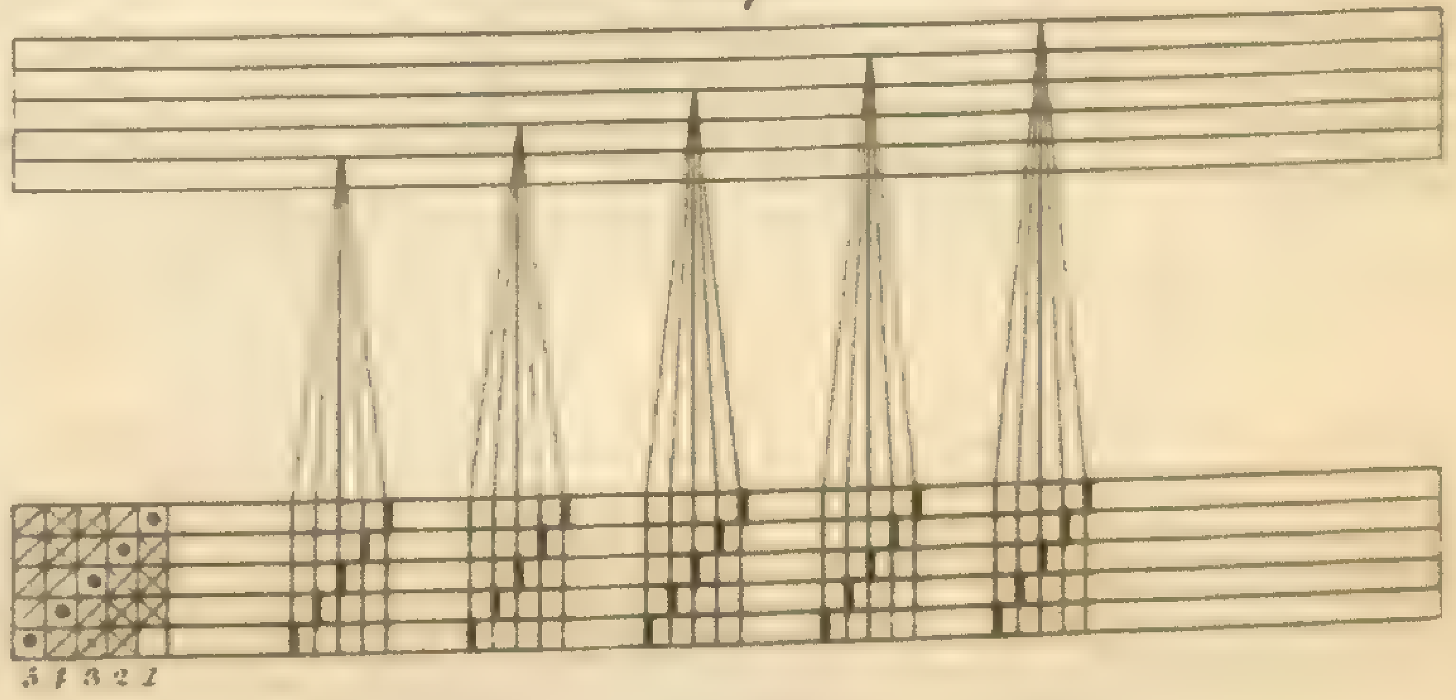


Fig. 9.
Similar Spot

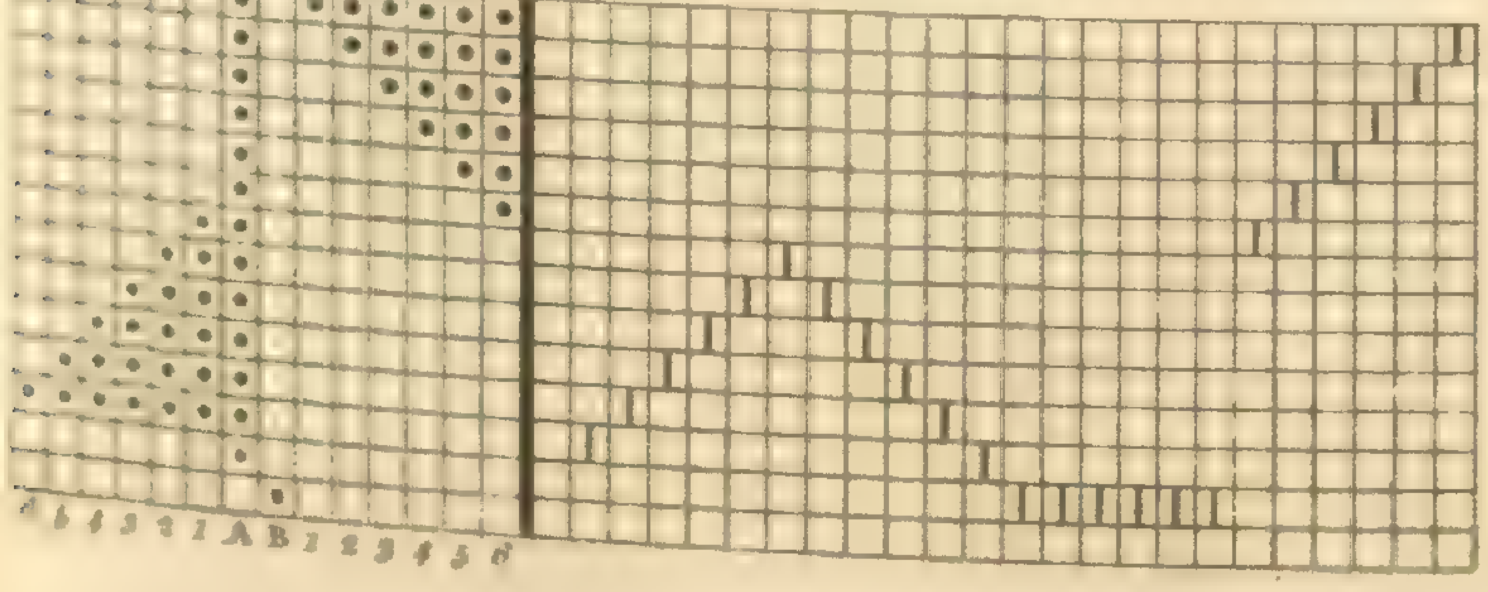
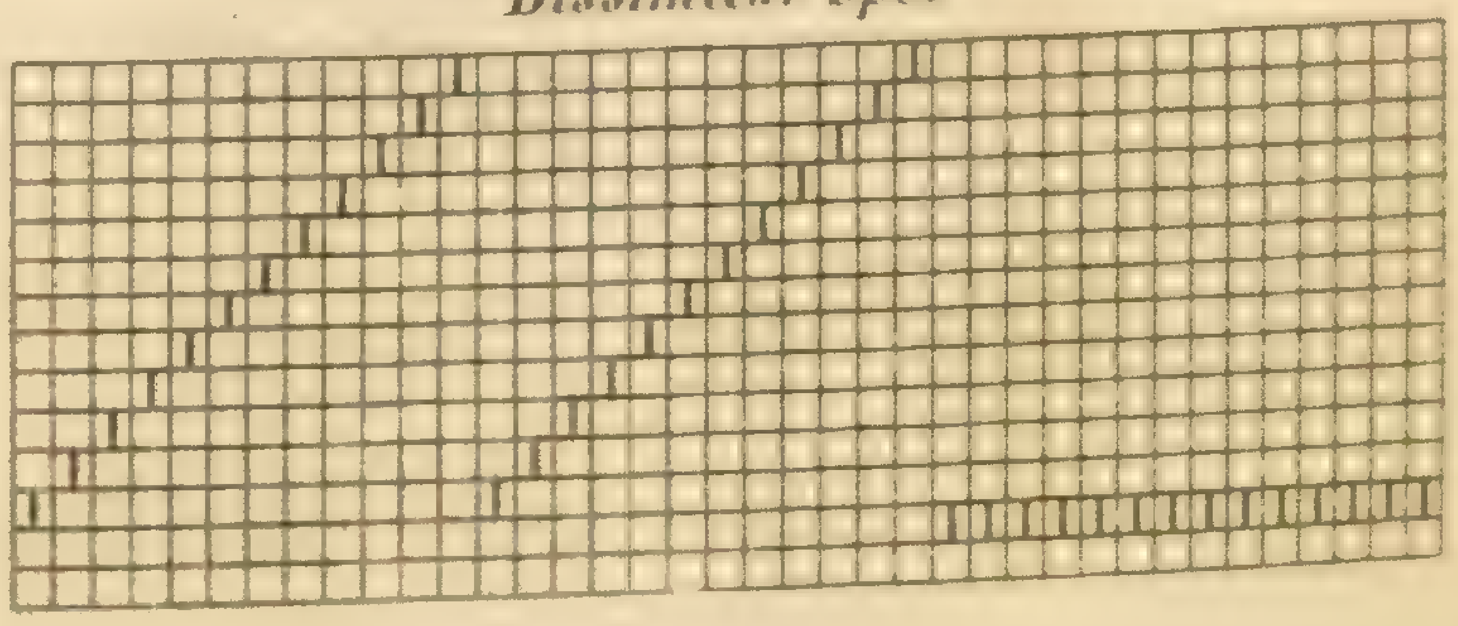


Fig. 10.
Dissimilar Spot



Drawn by John Duncan

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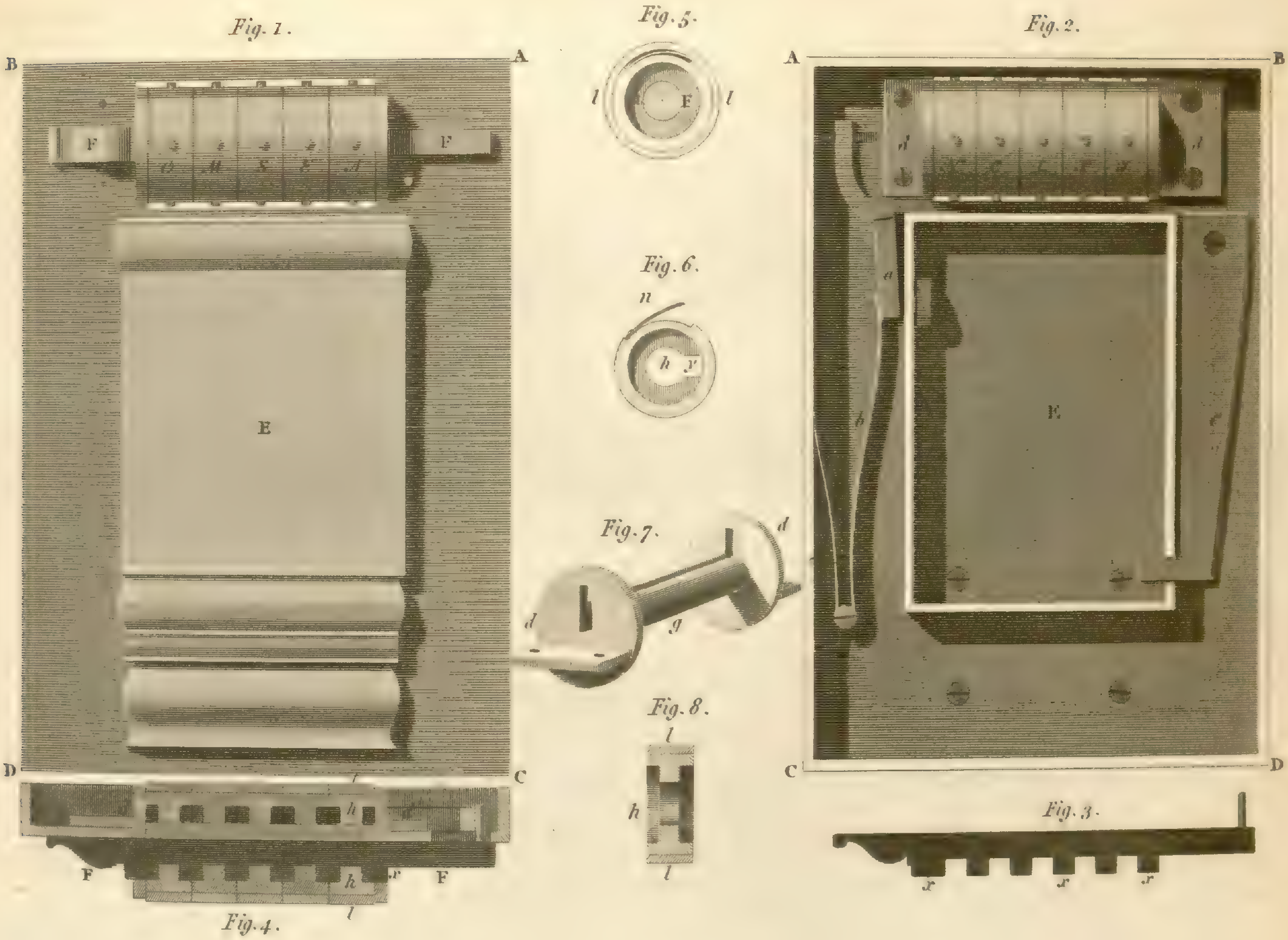
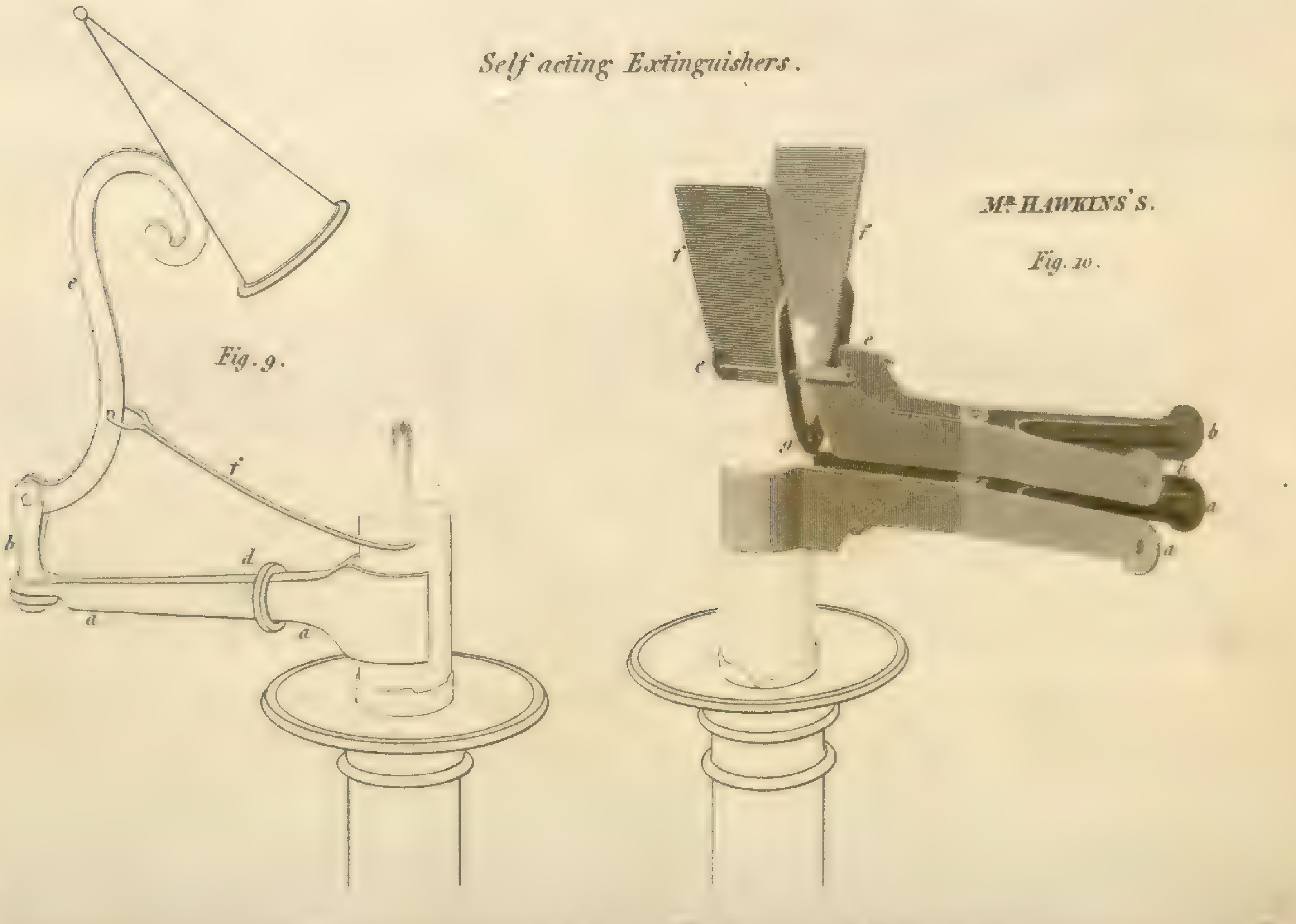
Mr. Marshal's Secret Escutcheon for a Key Hole.



Self acting Extinguishers.



J. Farey Junr. delin.

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Engraved by Wilson Lowry.

Mr. Maserés,
Original suspension.

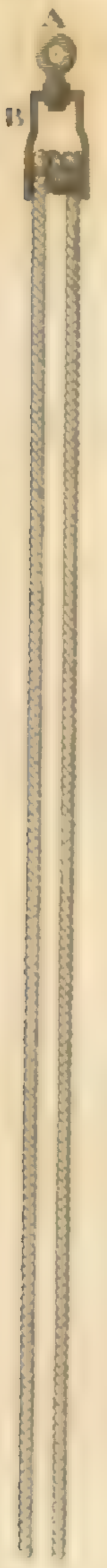
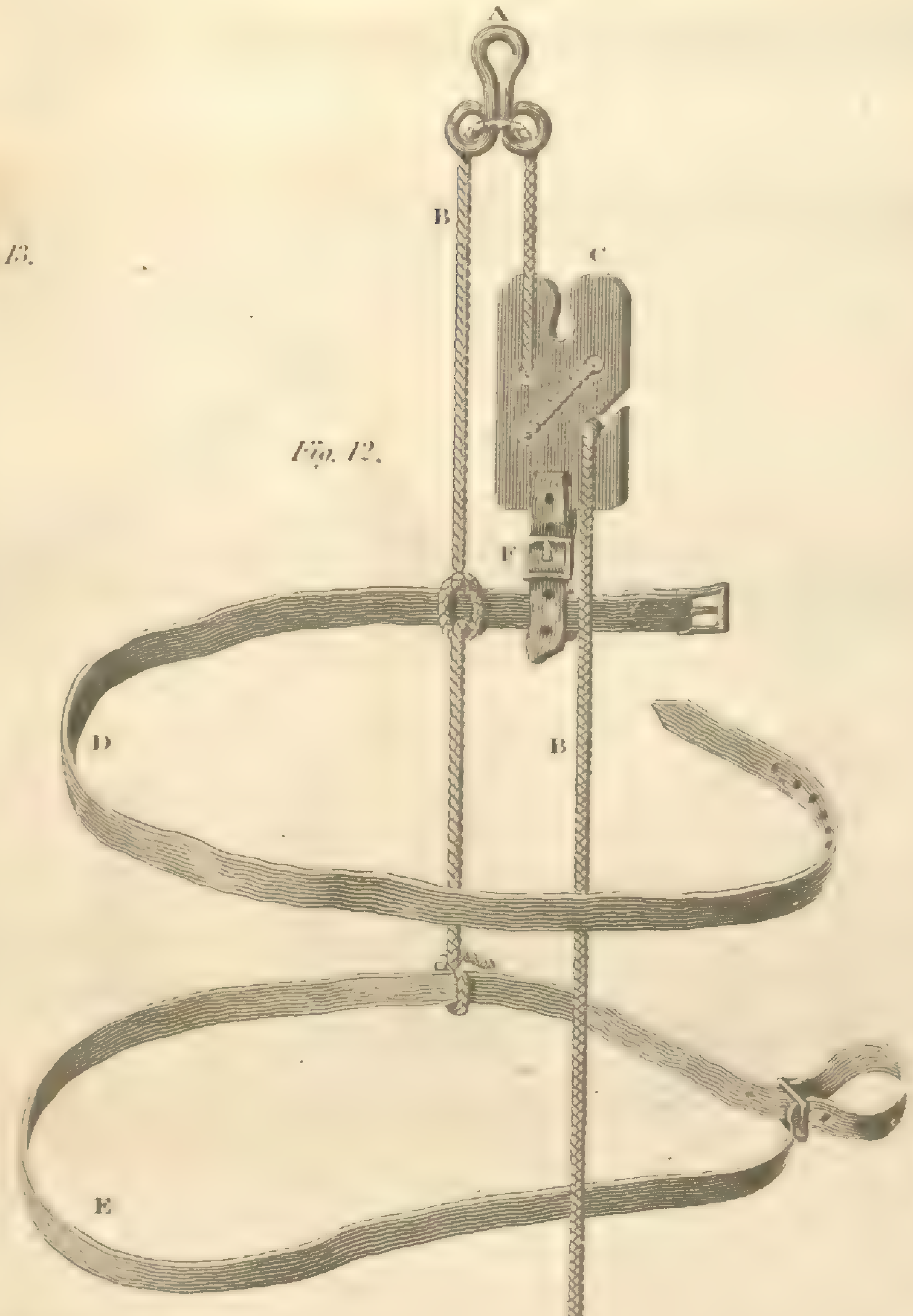


Fig. 13.

Mr. Maserés, FIRE ESCAPE
Simplified by Mr. Forster.



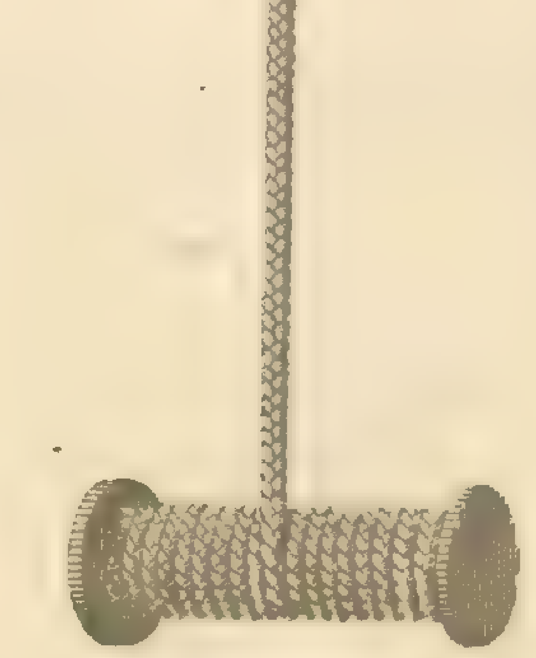


Fig. 12.

Painters EASEL.
Fig. 1.

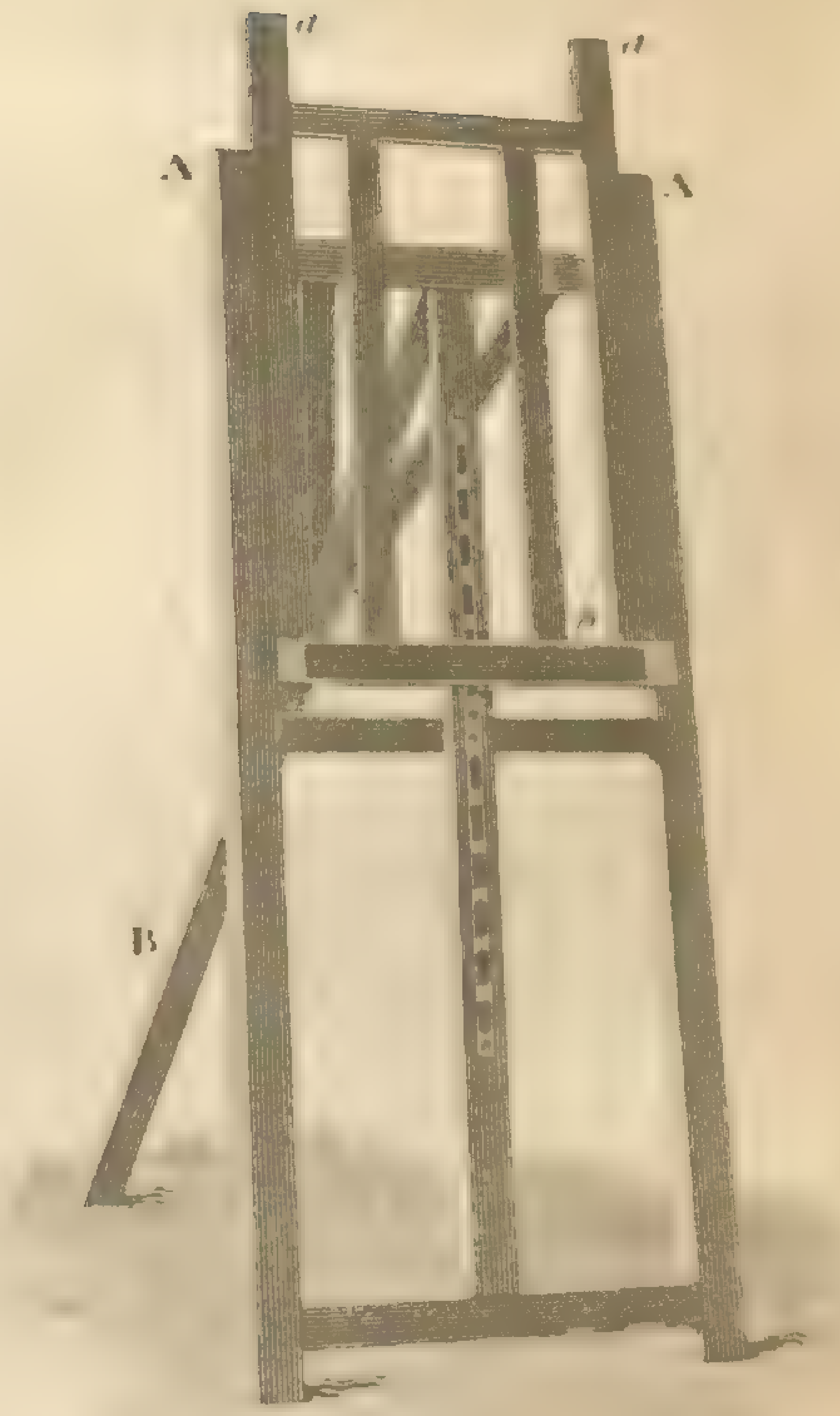
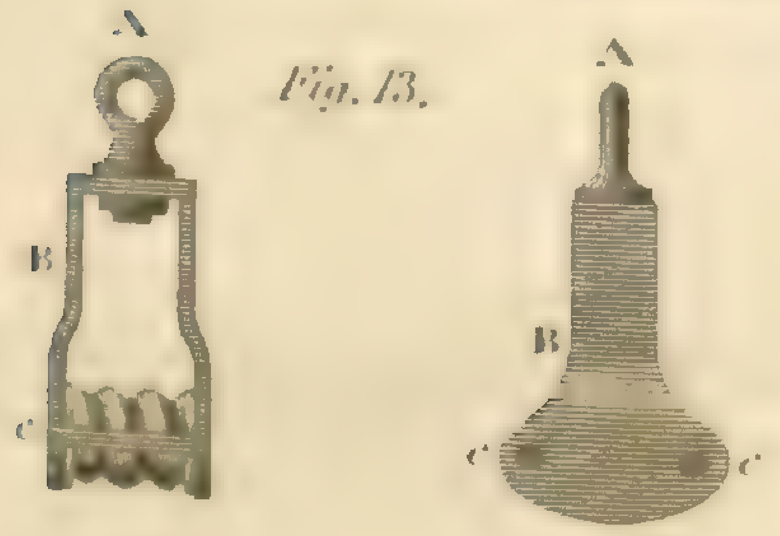
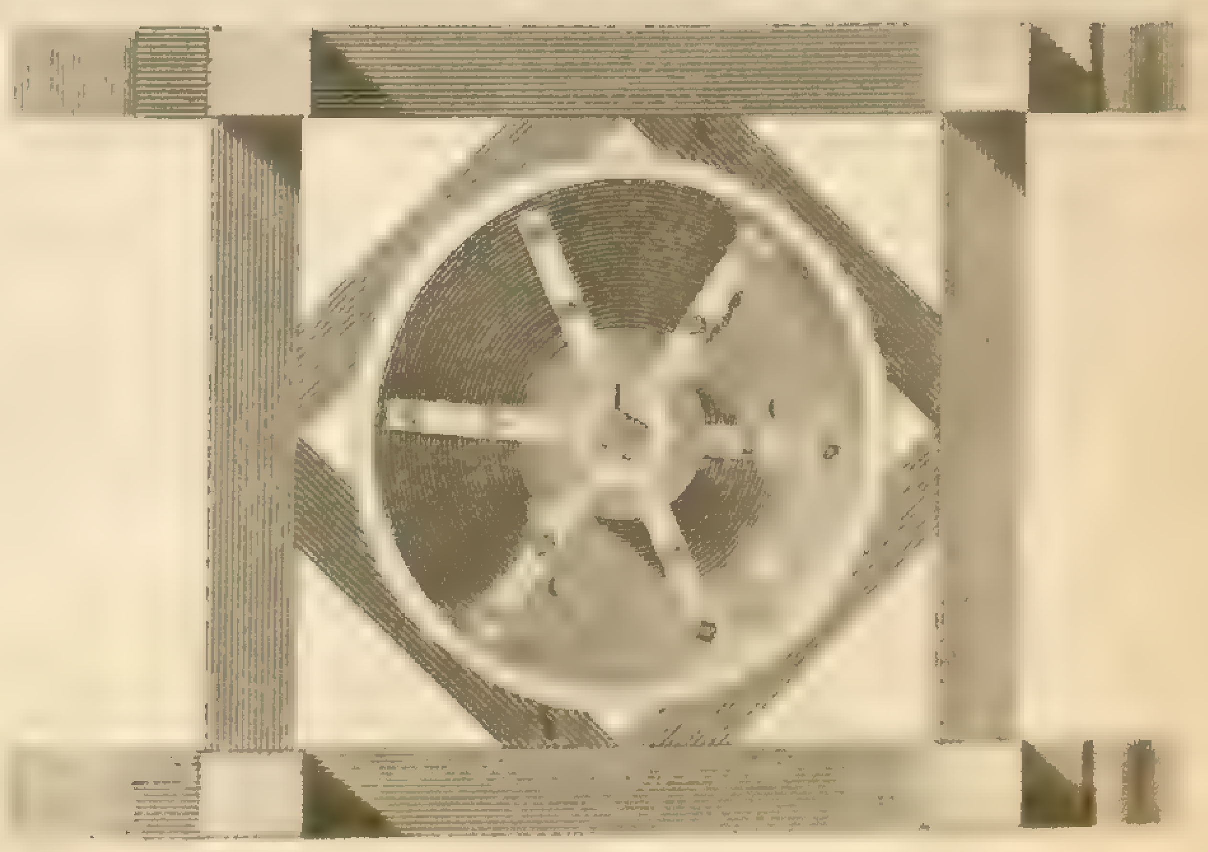


Fig. 13.



Indigo
Fig. 1.



INDIGO
Mills.

Fig. 3.

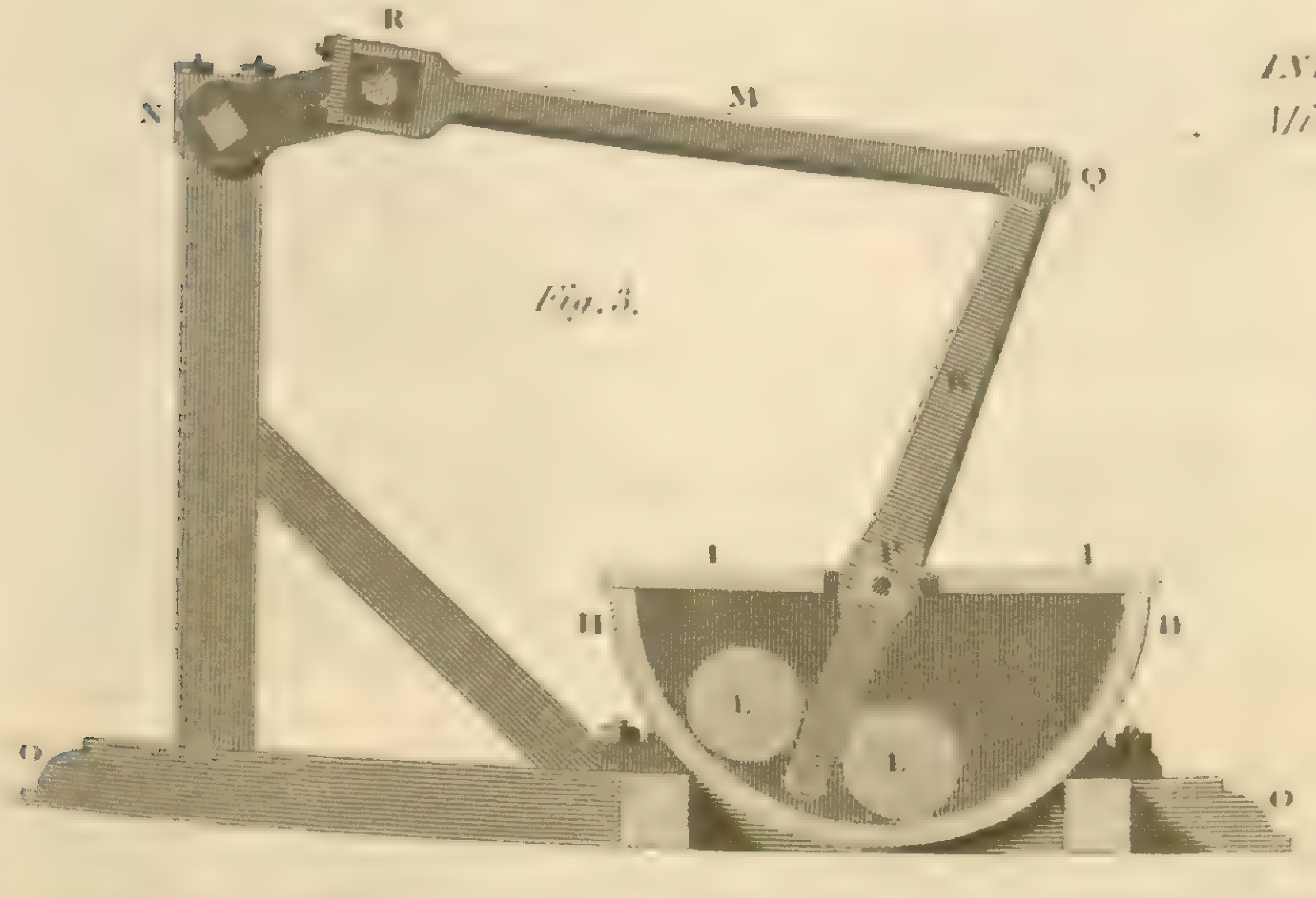
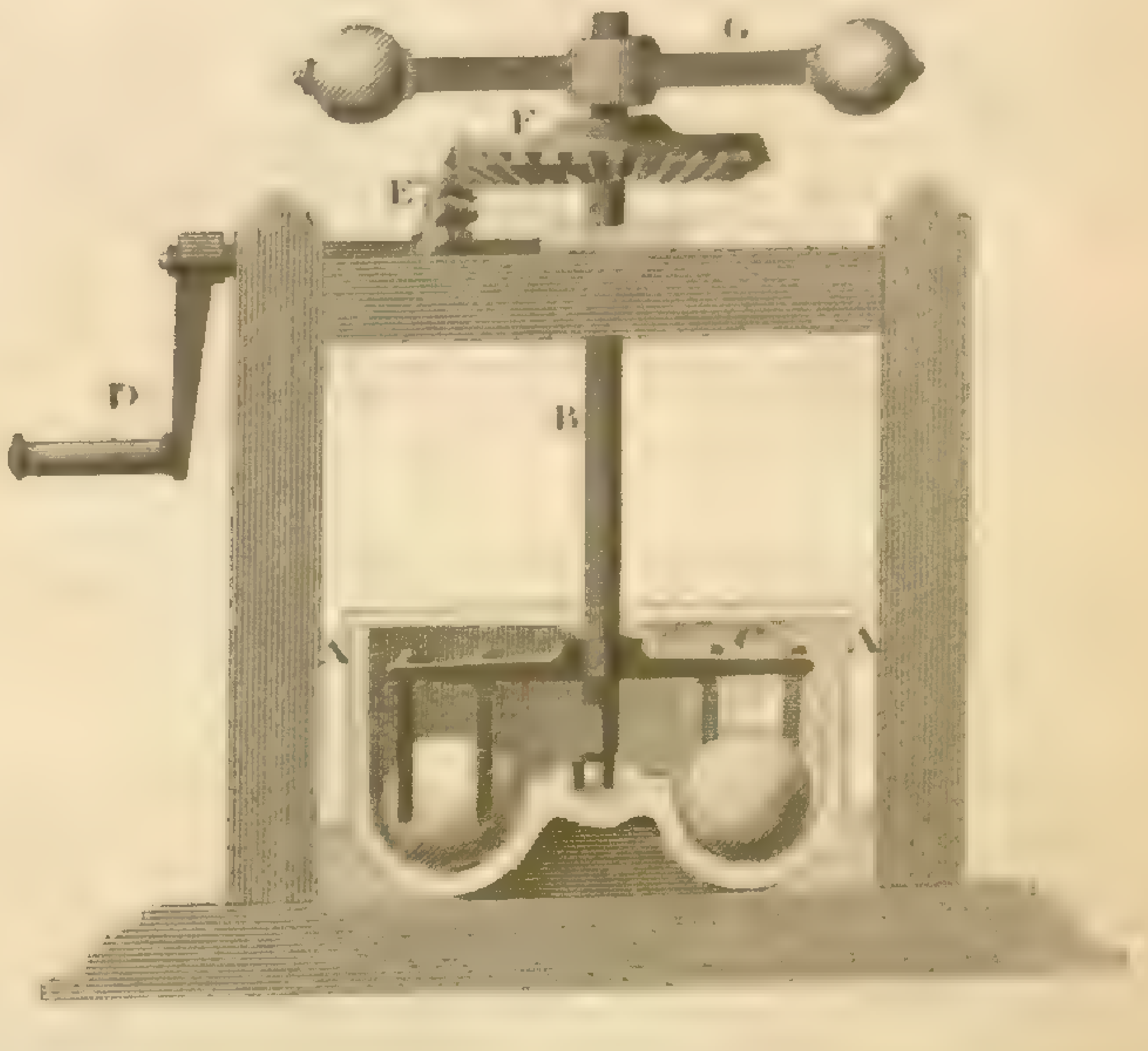


Fig. 2.



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FILE CUTTING.

Fig. 6.

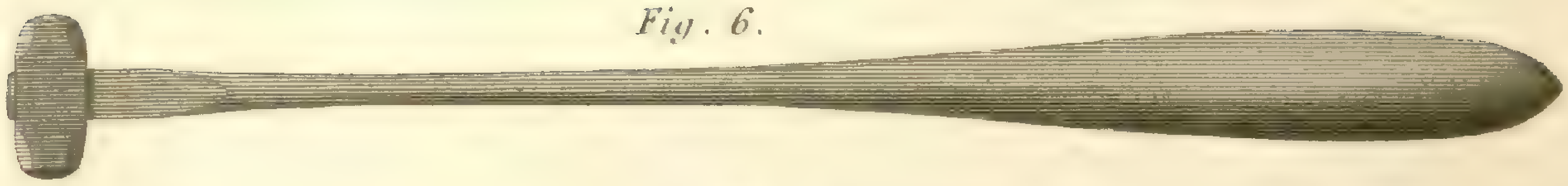


Fig. 5.

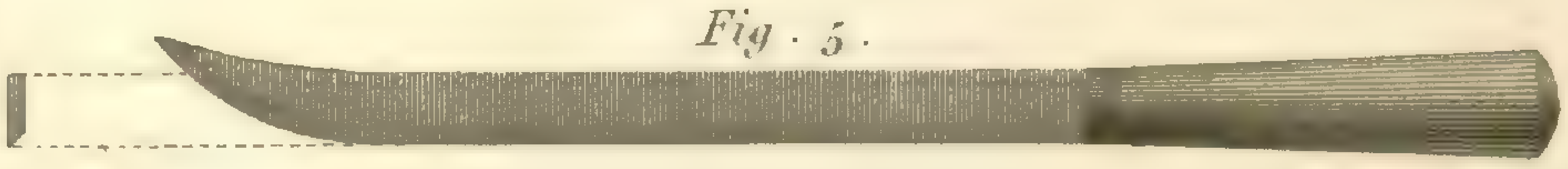


Fig. 4.

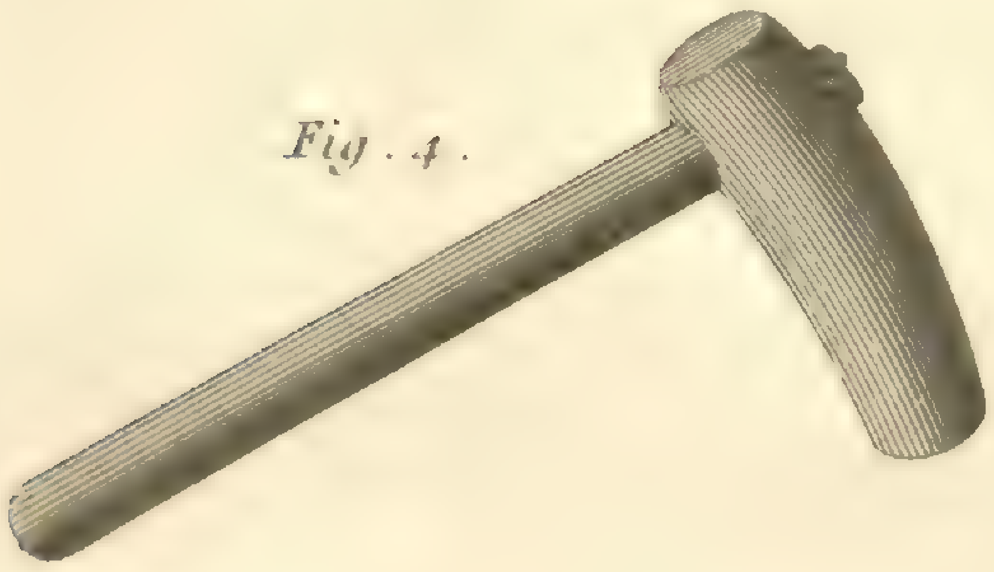


Fig. 1.

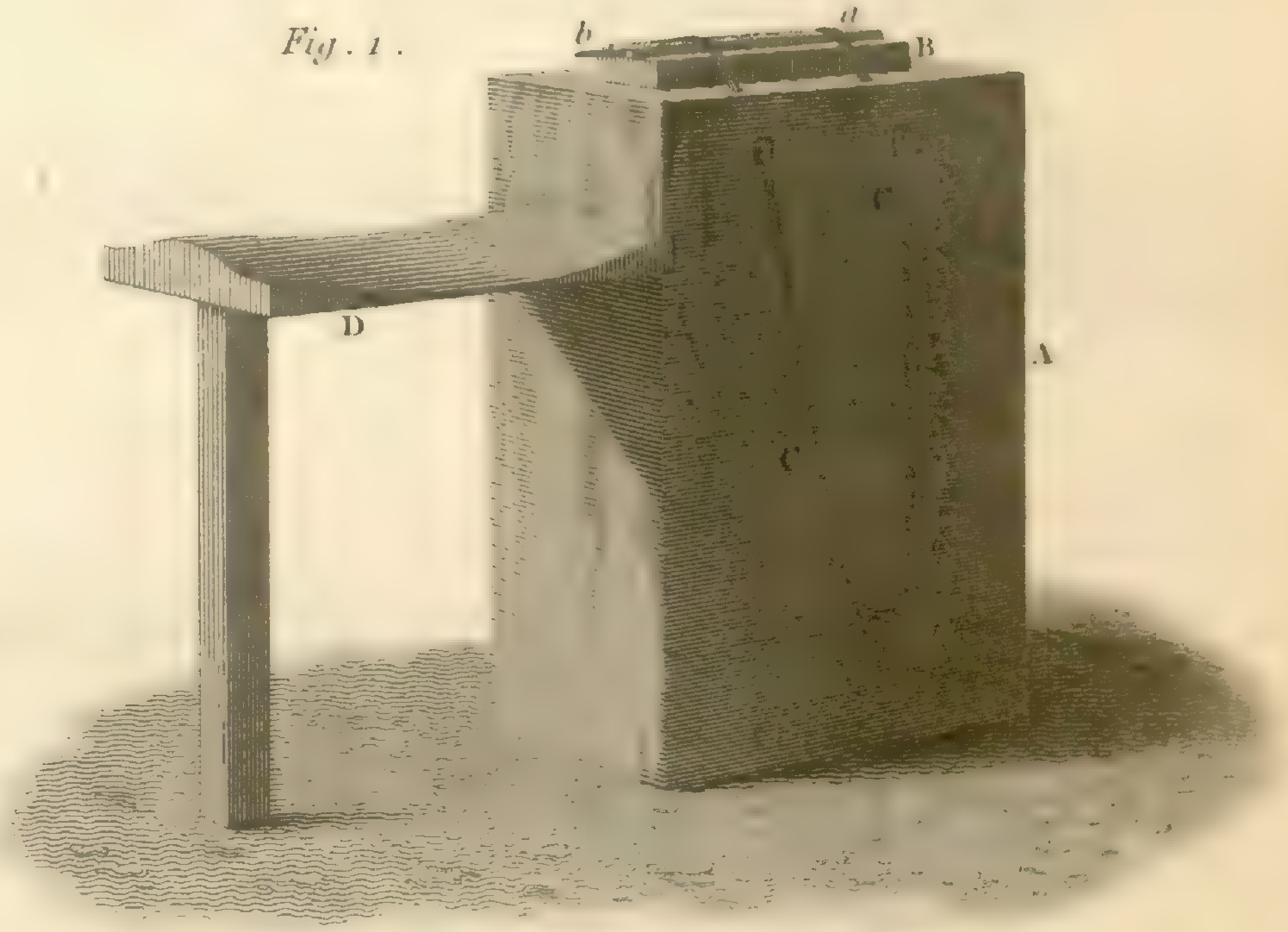
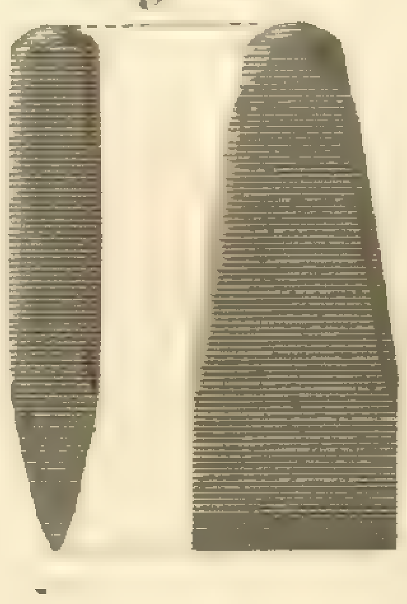


Fig. 7.

Fig. 3.

Fig. 2.



FILTERS

Fig. 10.

Fig. 8.

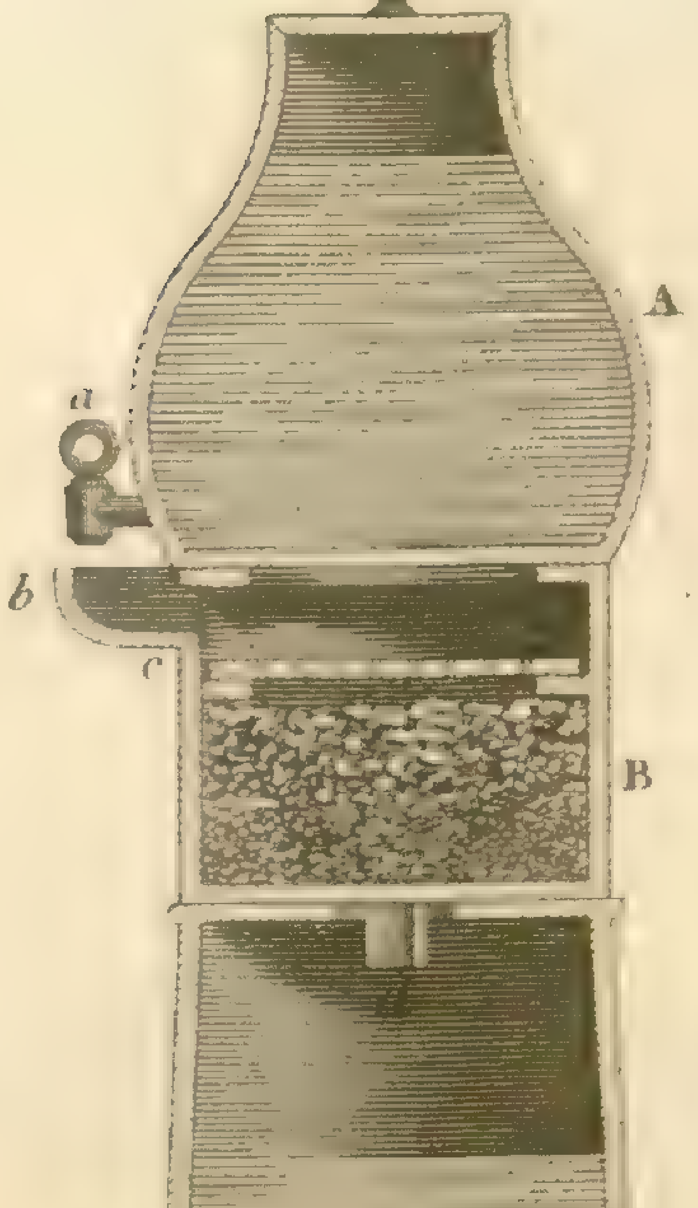
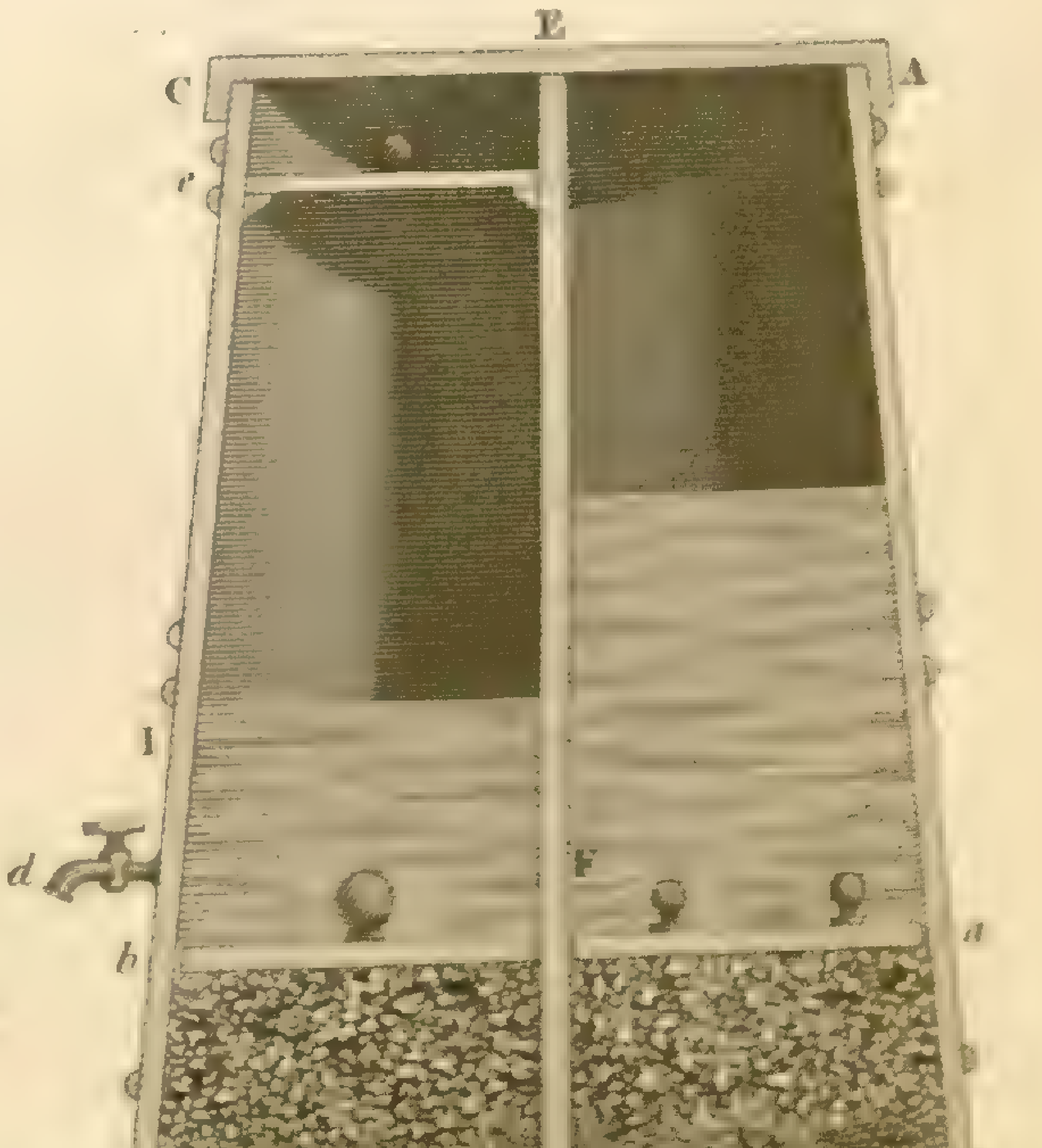


Fig. 9.



Farey Jun.r delin.

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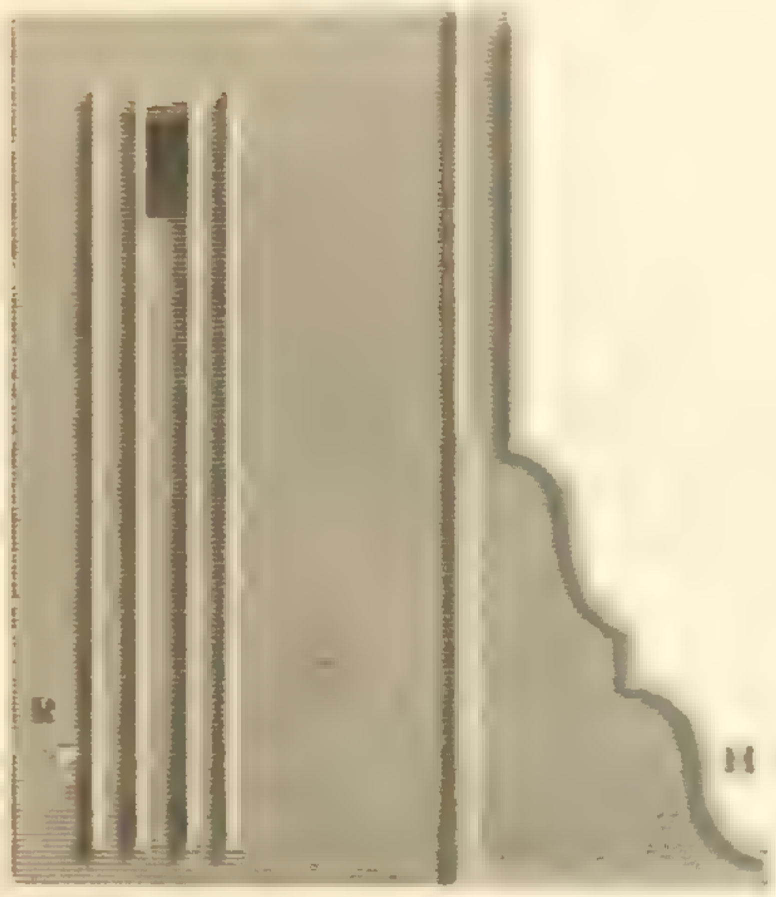
Engraved by W. Lowry

MISCELLANY.

FIRE PLACE by Dr. FRANKLIN.

Side Plate

No. 3.



Back Plate

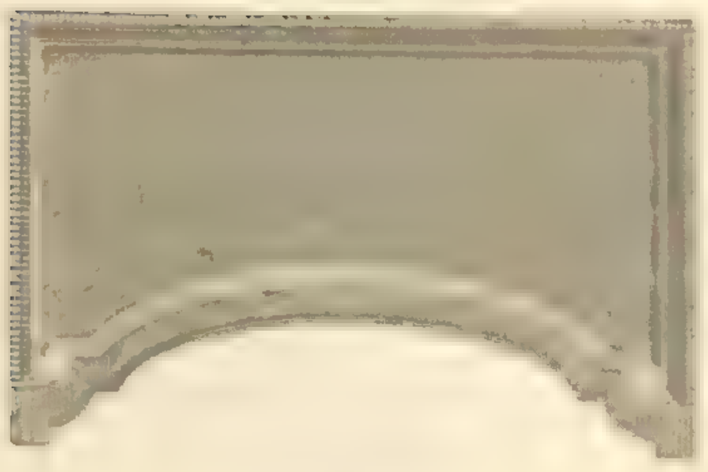
No. 2.

Bottom Plate

Fig. 2. No. 1.

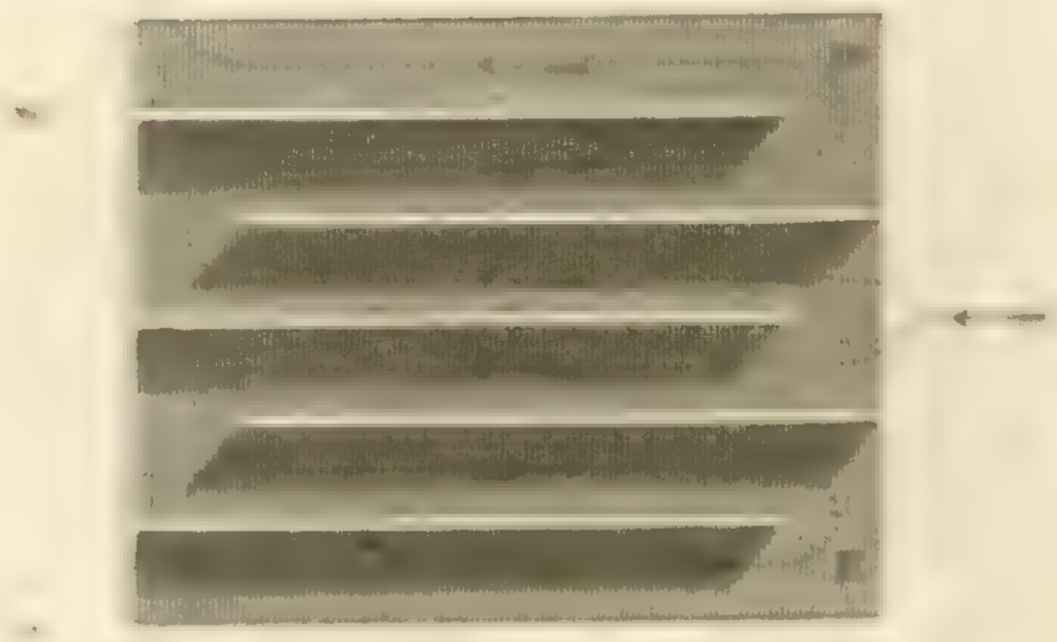
Front Plate

Fig. 5.



Air Box

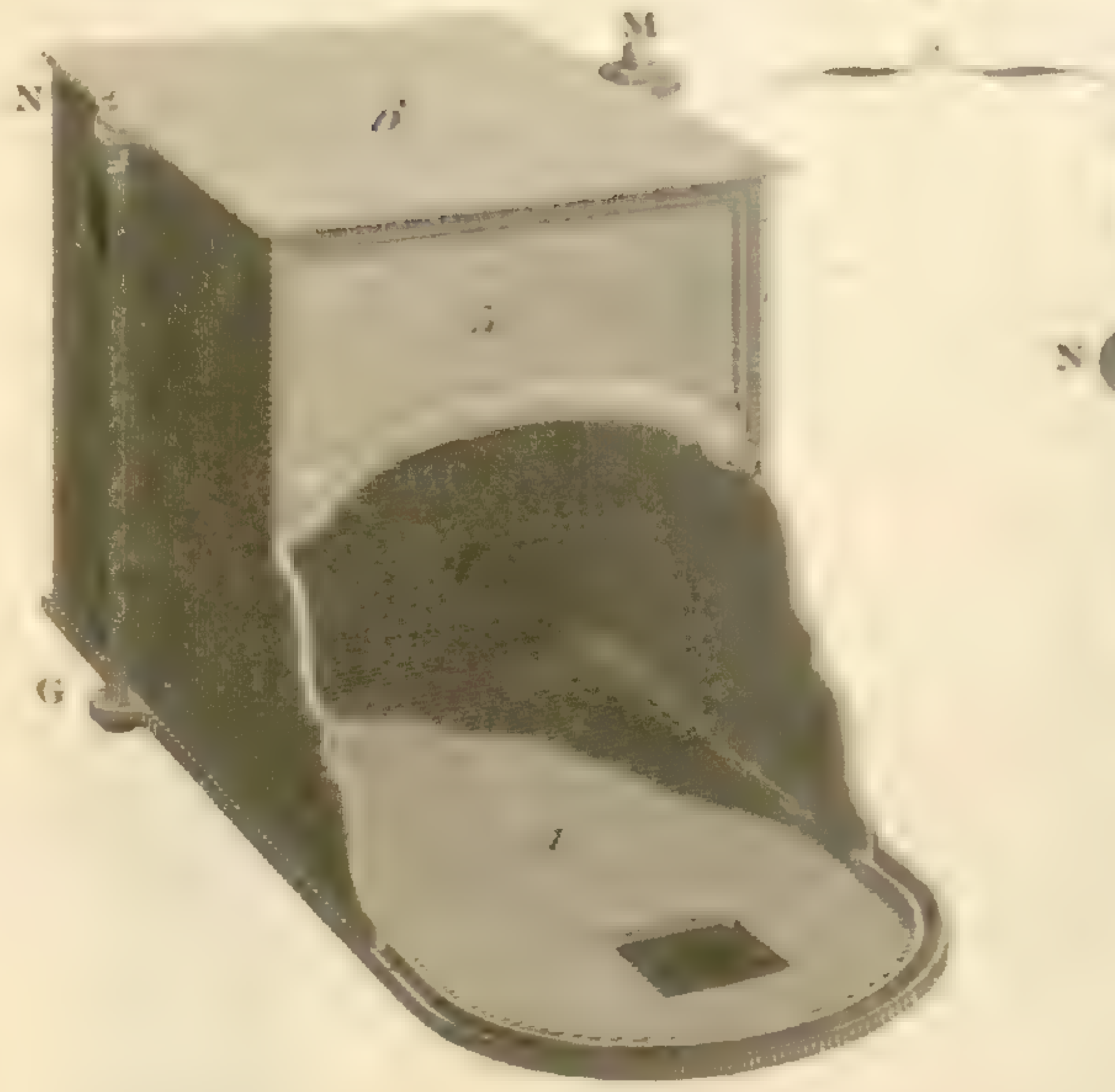
Fig. 4.



Ledges

Fig. 3.

Fig. 6.



Top Plate

No. 6.

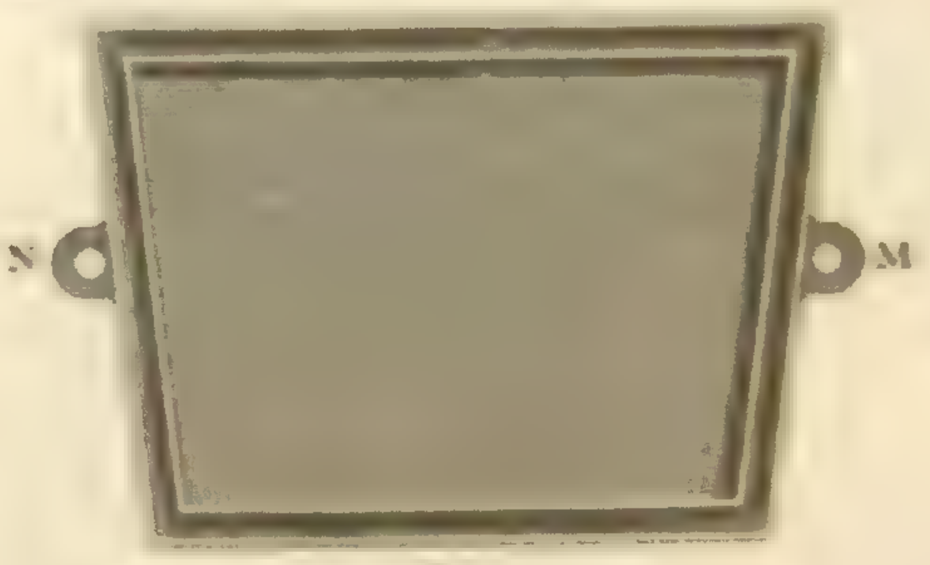
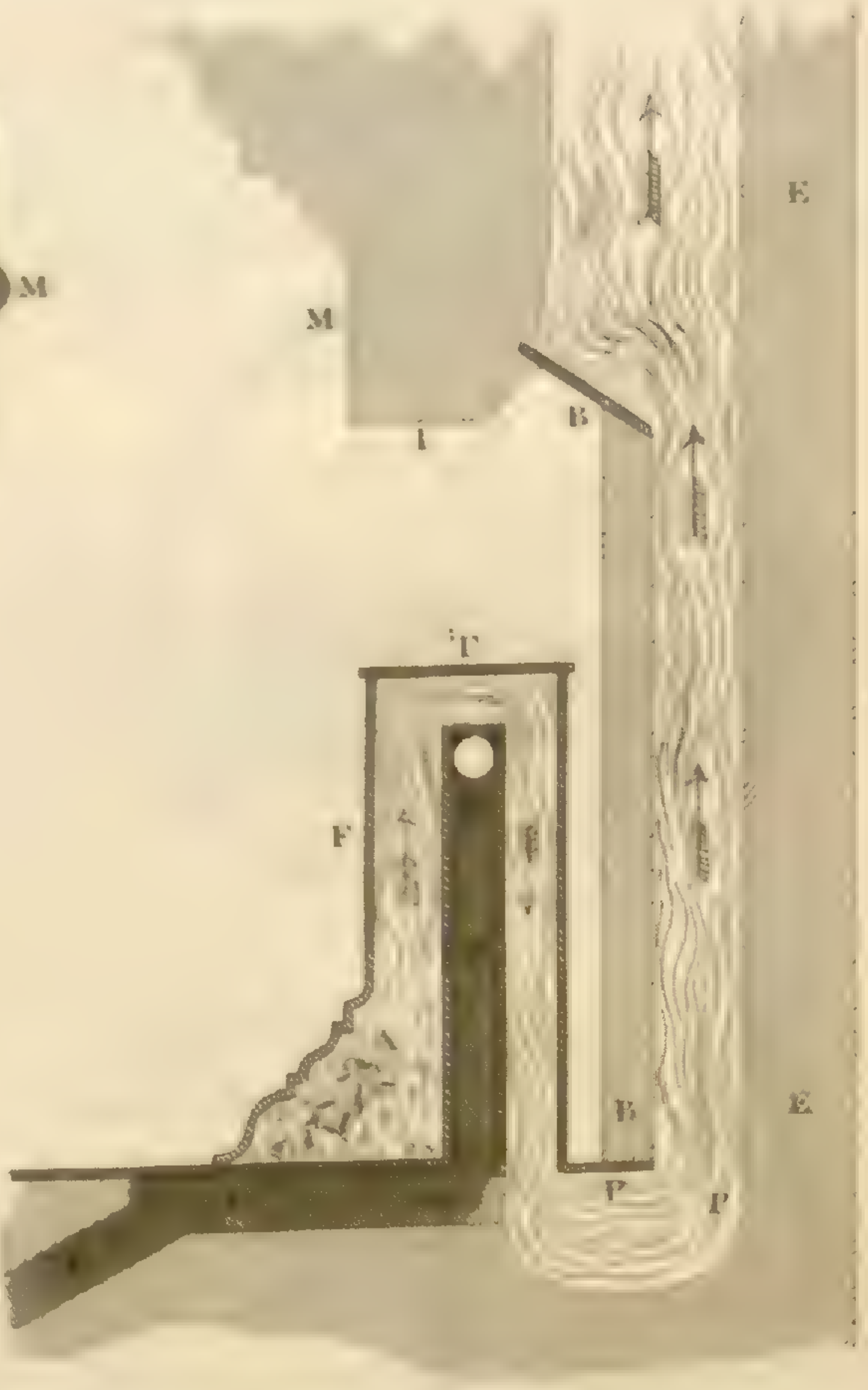


Fig. 7.



Shutter

No. 7.

Register

No. 8.

Farey delineavit.

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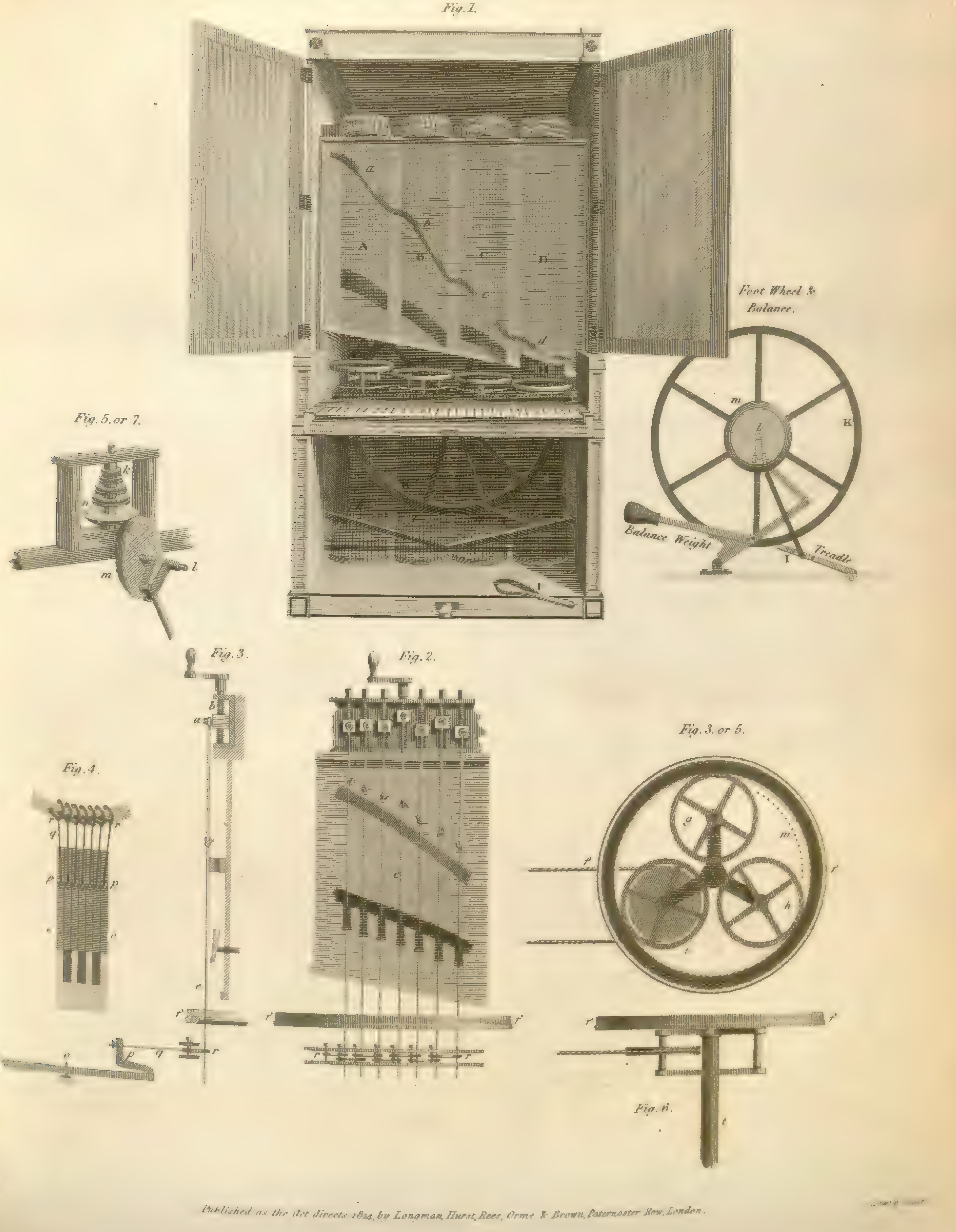
MISCELLANY

Hawkins's Claviole or FINGER Keyed Viol.



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FLOOD GATES.

Smeaton's.

Fig. 5:6. Plan.

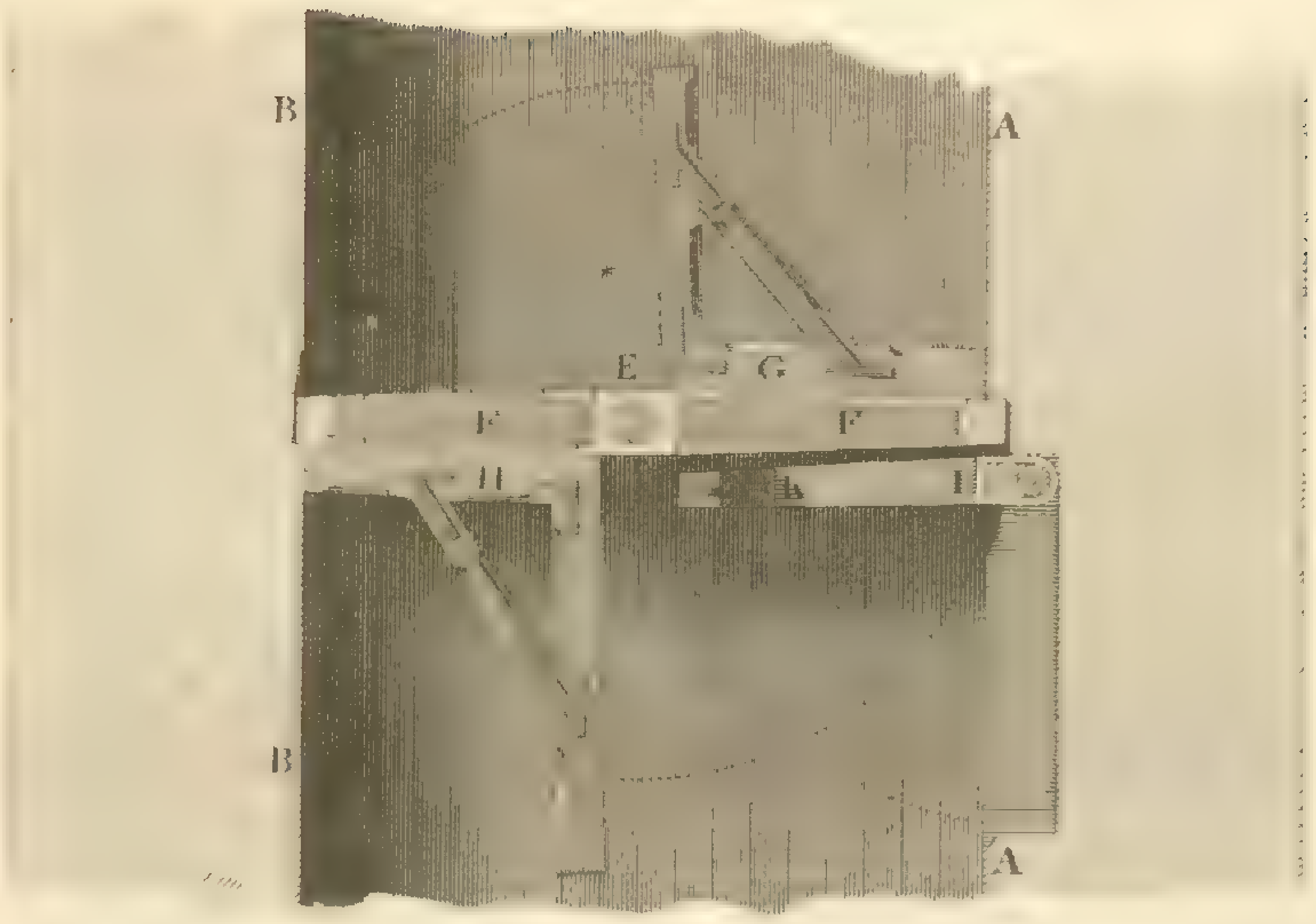


Fig. 2. Elevation.

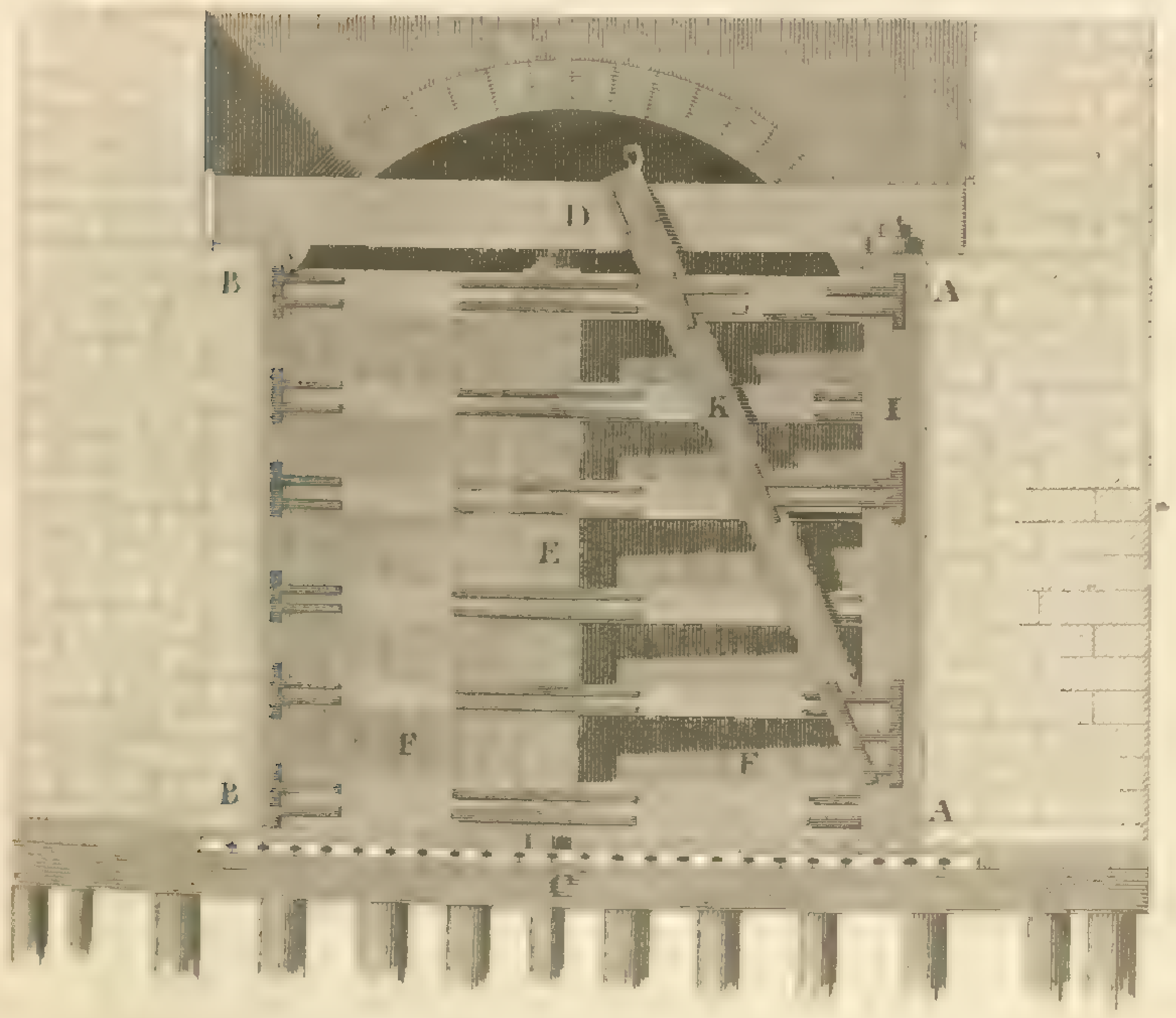
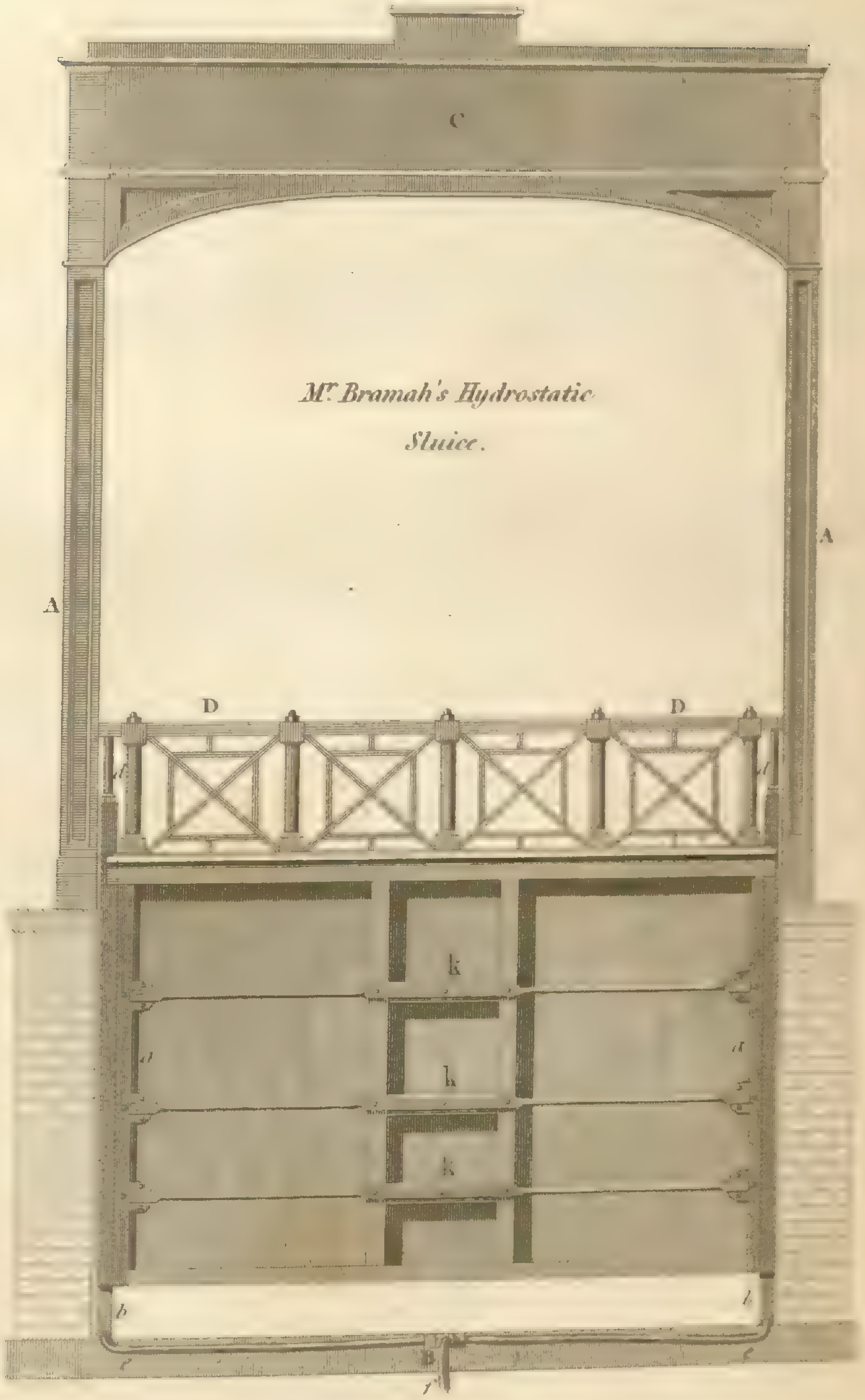


Fig. 8.



Mr. Bramah's Hydrostatic Sluice.

Fig. 7. Self acting flood Gate by Mr. Farey.

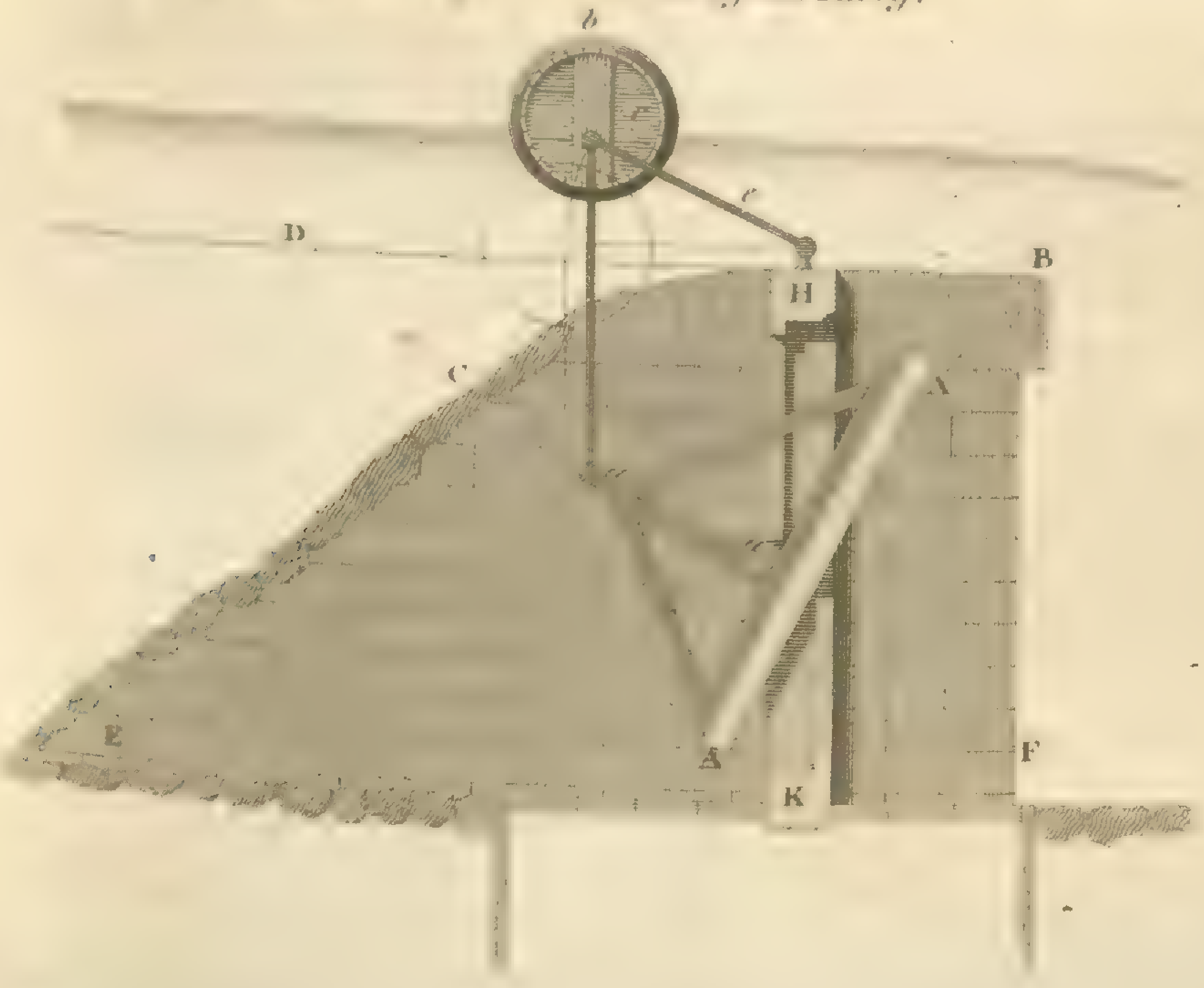


Fig. 9.

Fig. 11.

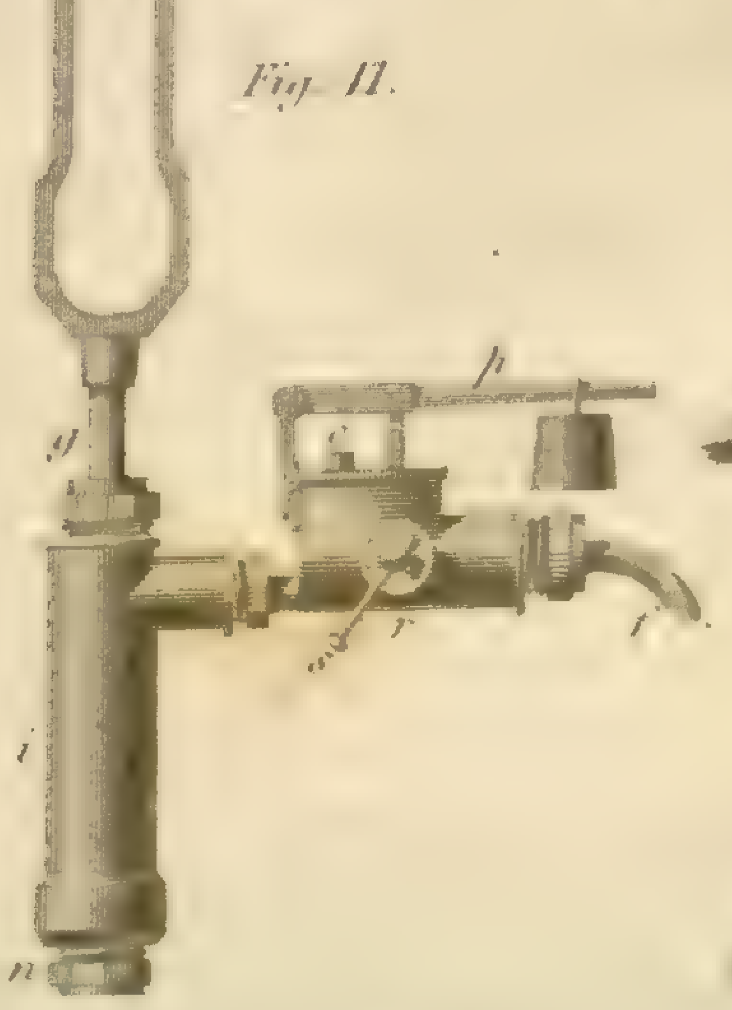
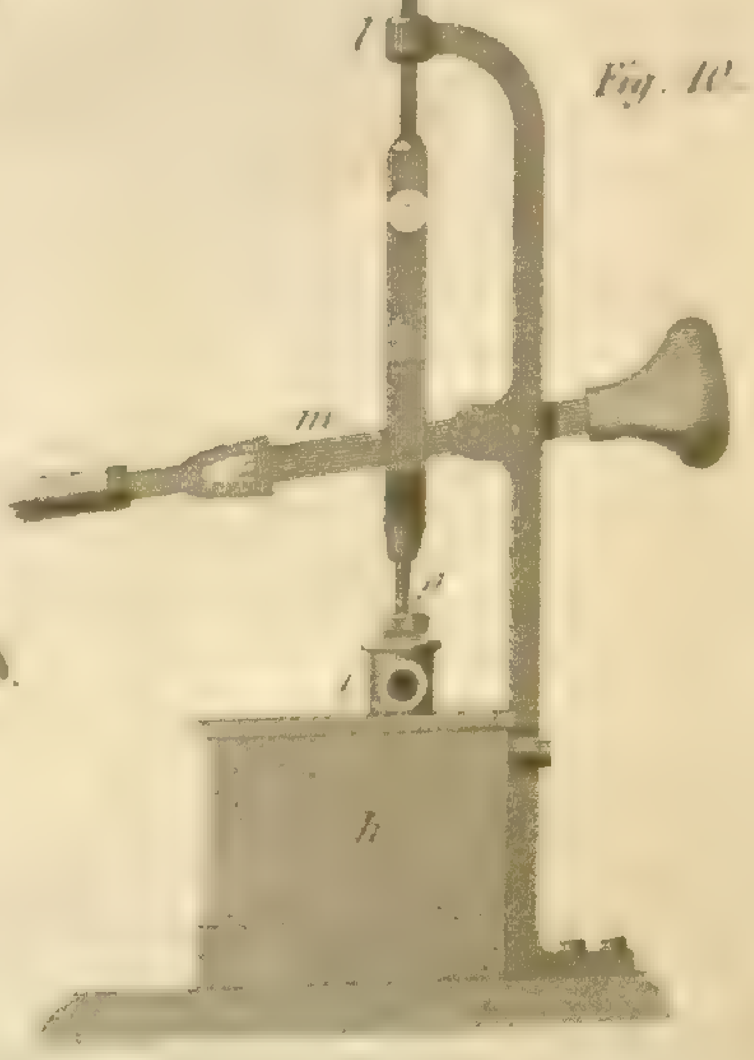


Fig. 10.



J. Farey Junr. delin. Lowry sc.

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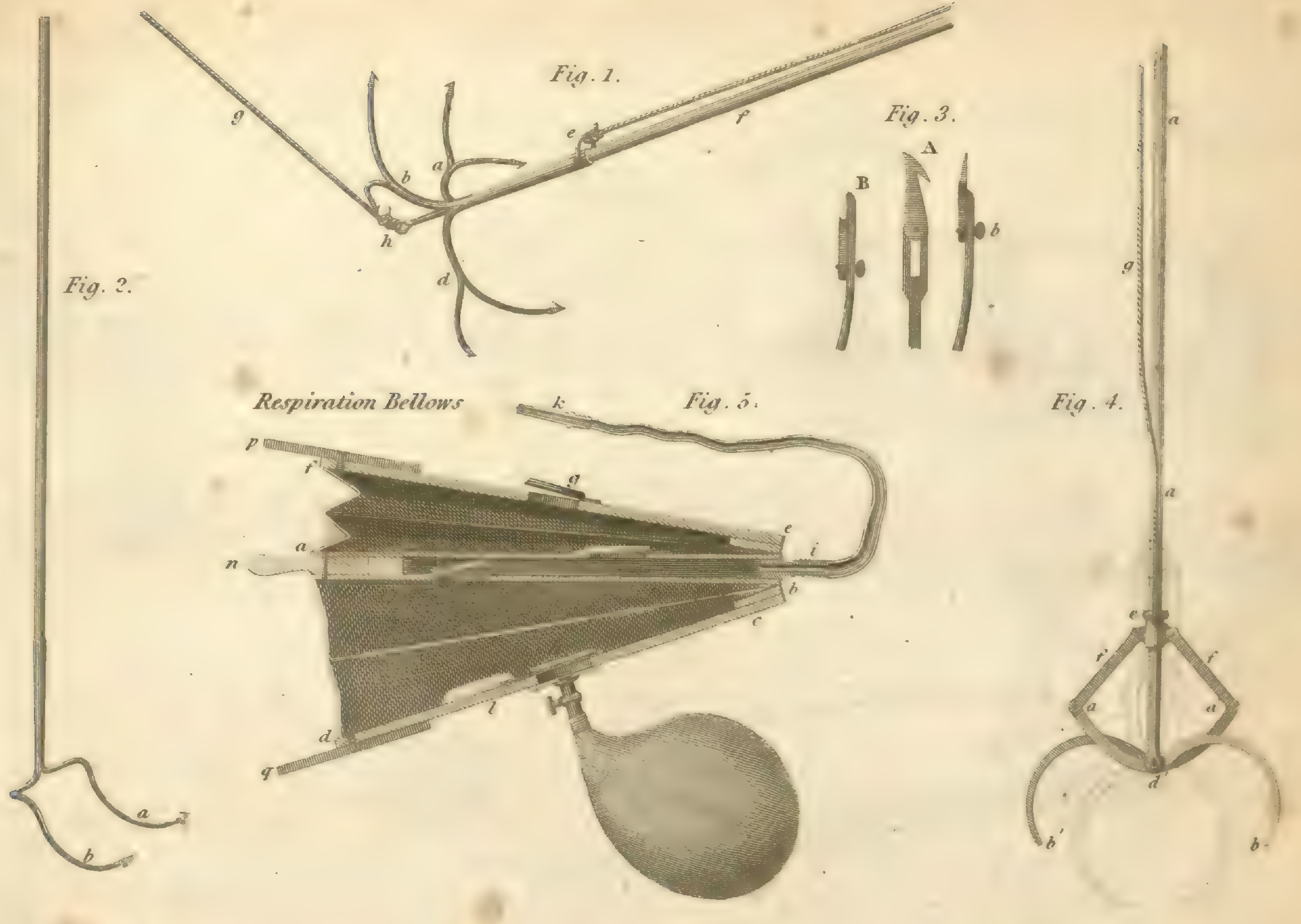
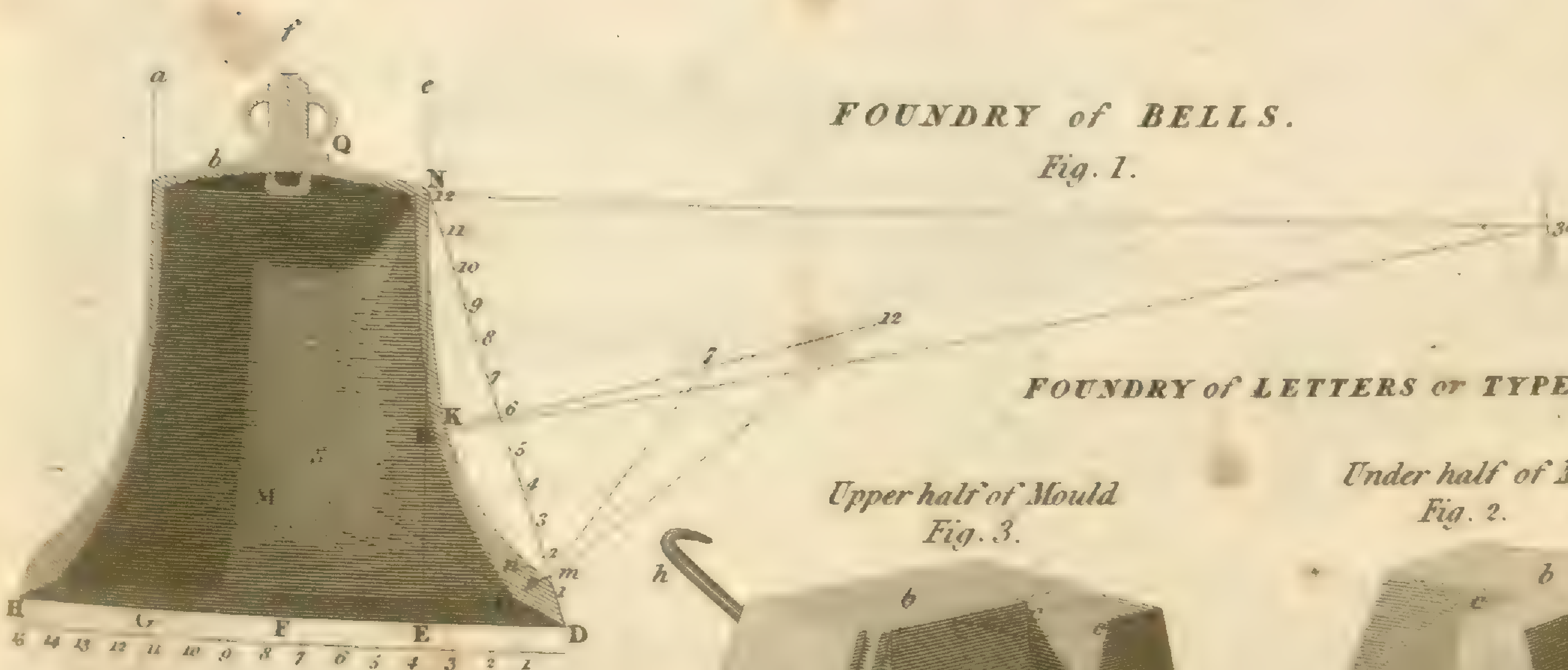
Apparatus for restoring those DROWNING to life.



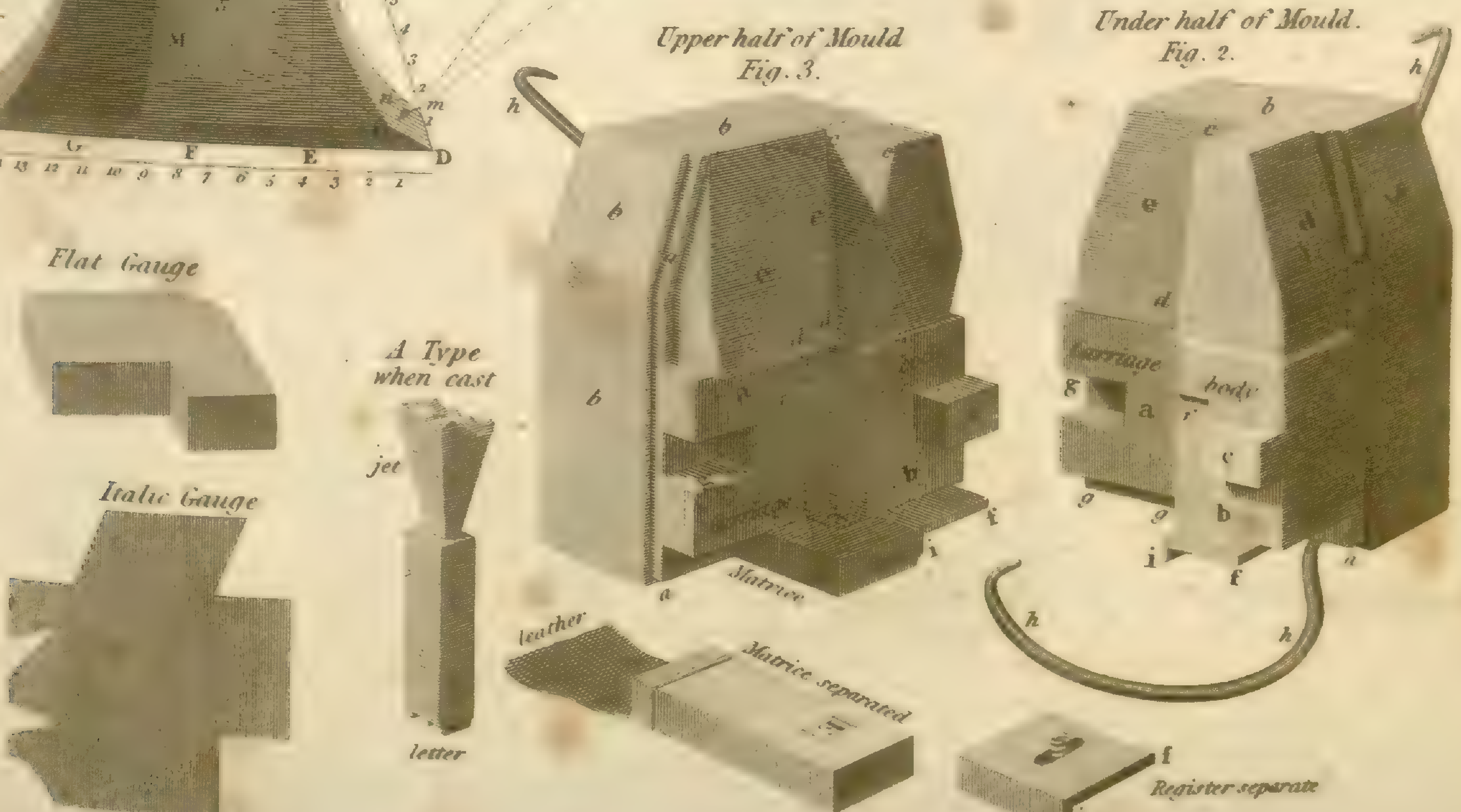
FOUNDRY of BELLS.

Fig. 1.



FOUNTAIN Pen. Fig. 4.

FOUNDRY of LETTERS or TYPES.



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Engraved by Wilson Lowry

Sea GAGE

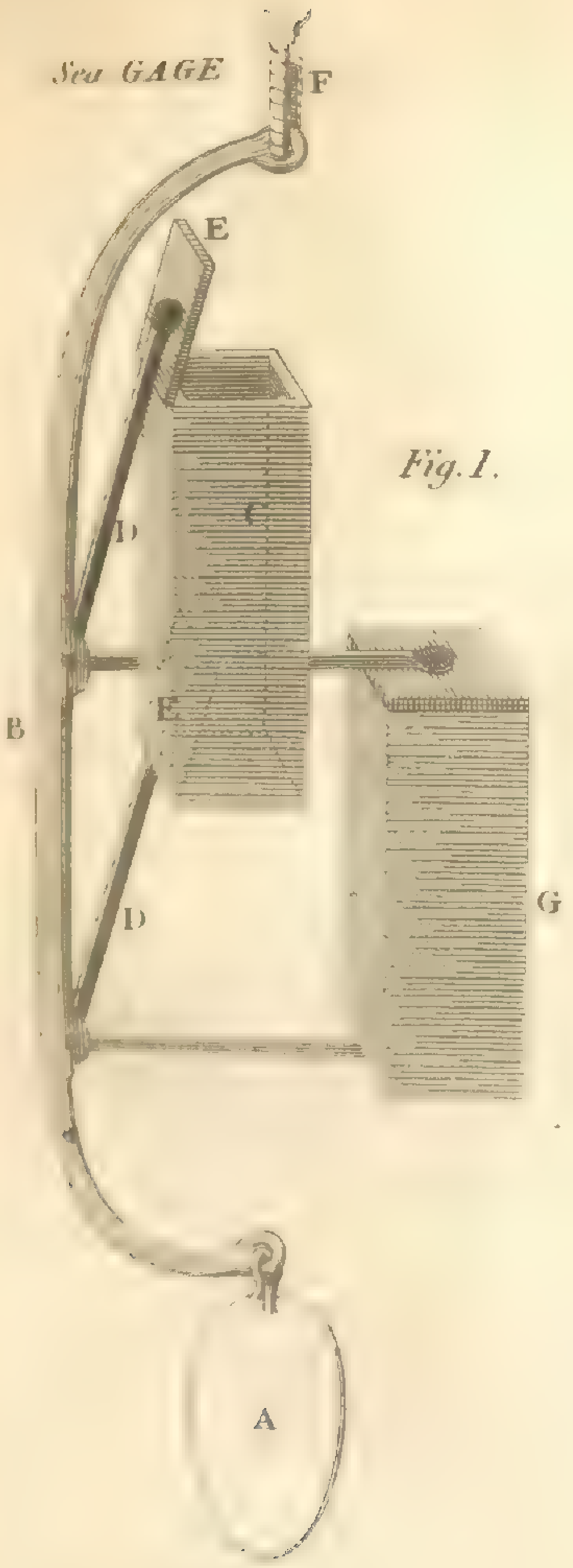

Fig. 1.

GAGE

Fig. 2.

PYROMETER

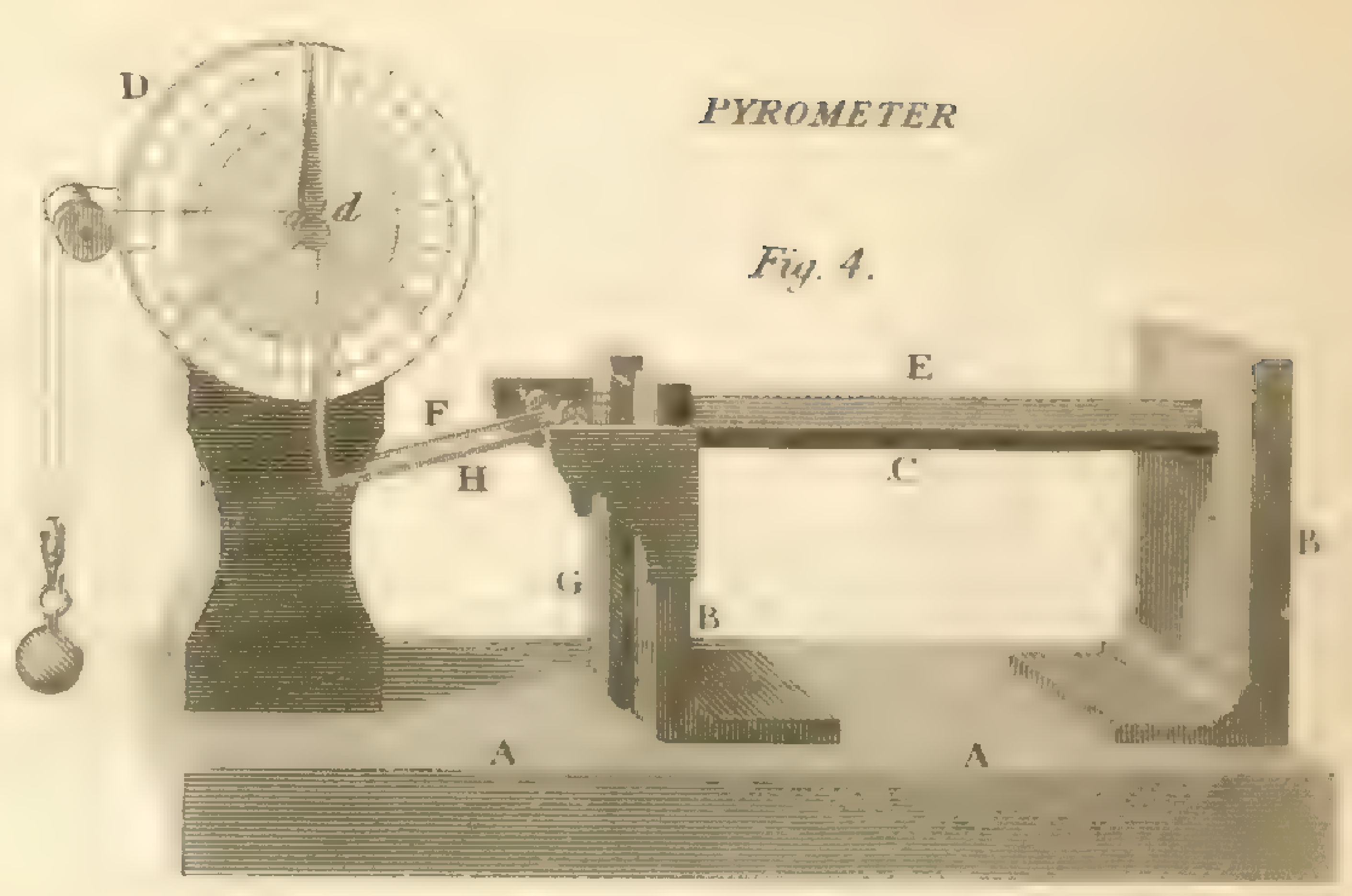

Fig. 4.

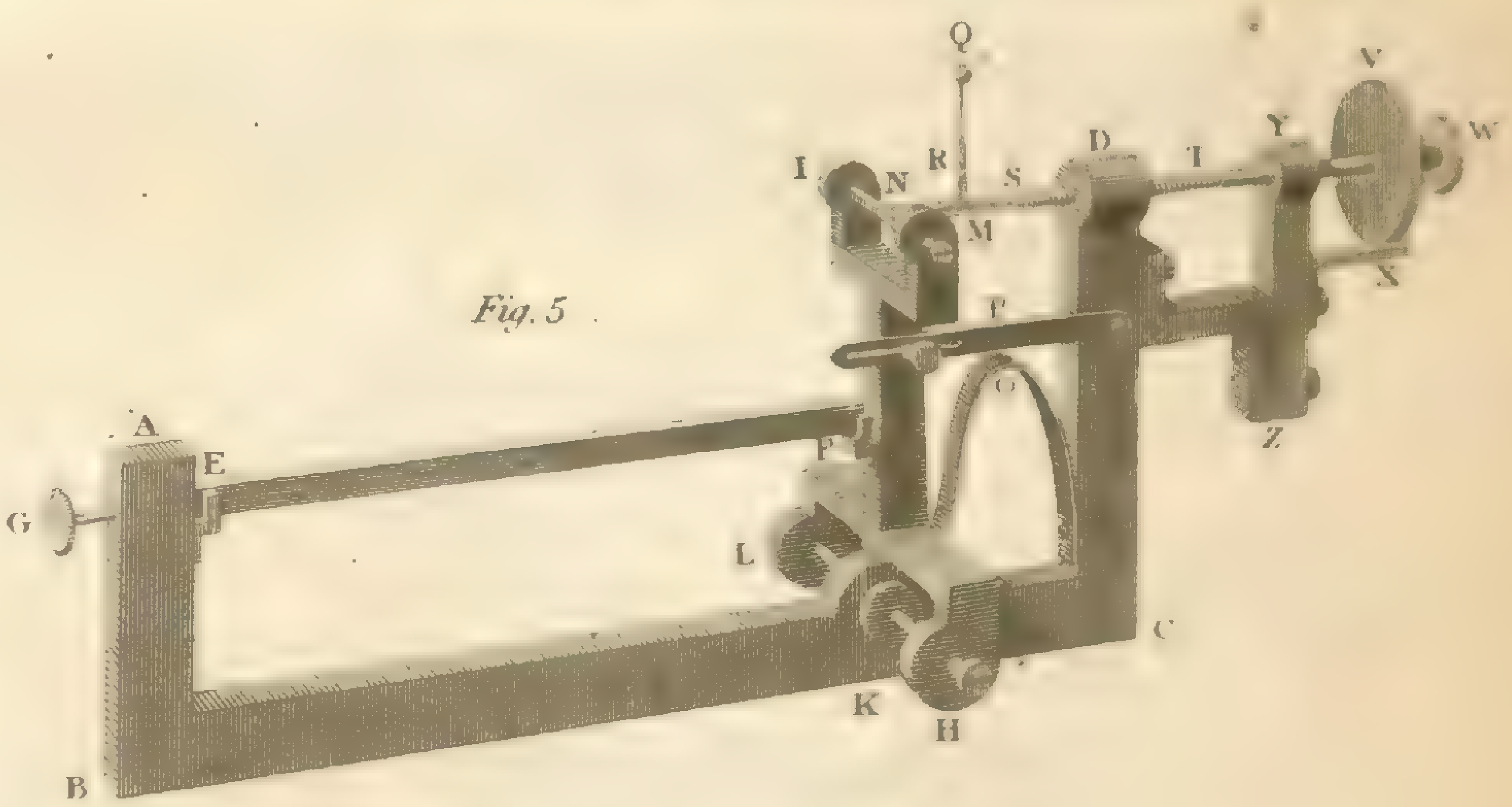

Fig. 5

Rain GAGE

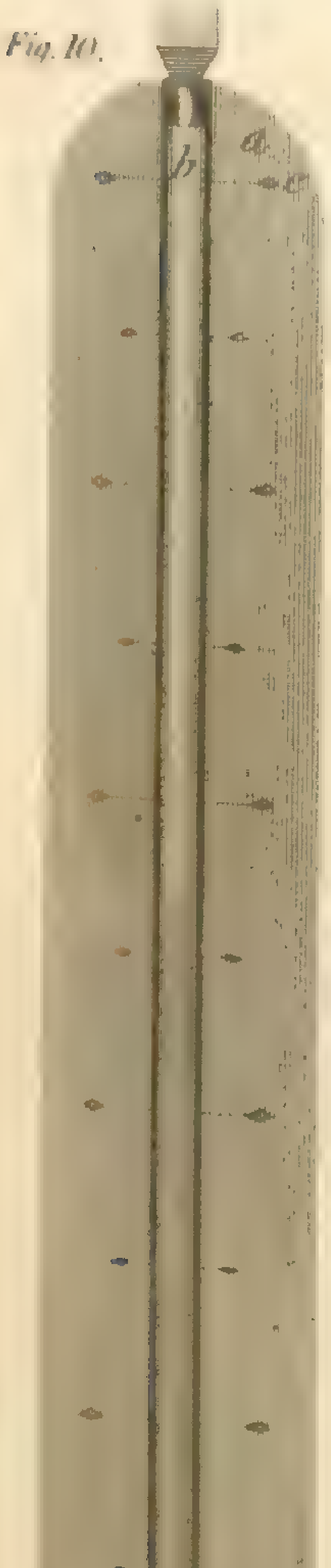

Fig. 10.

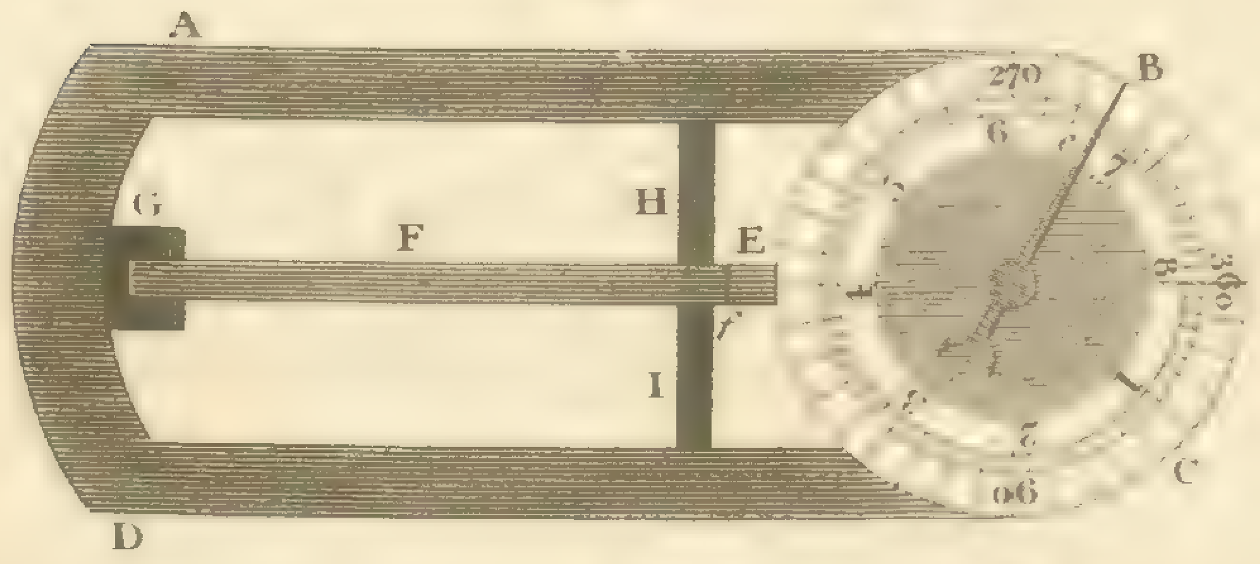

Fig. 7.

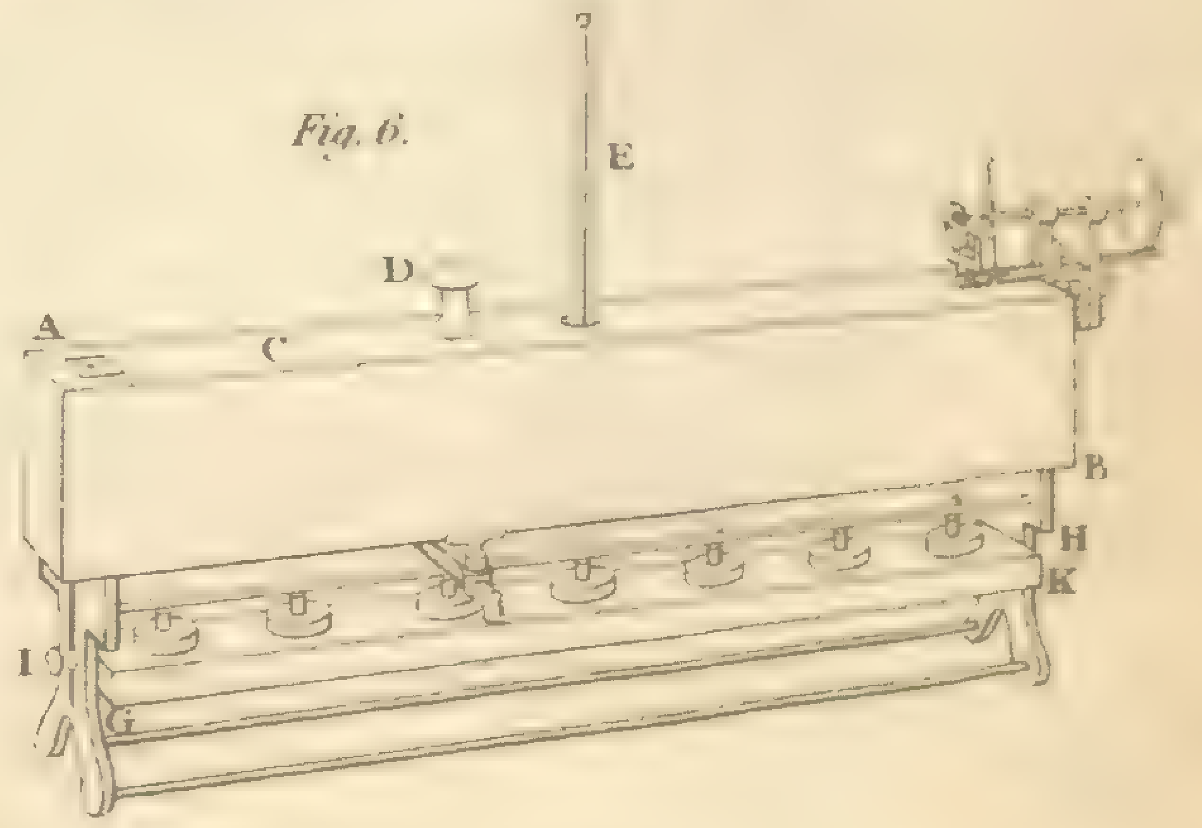

Fig. 6.

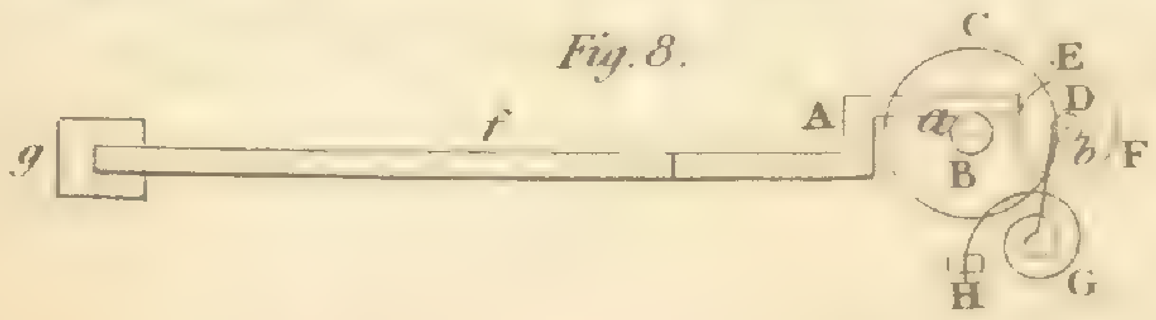

Fig. 8.

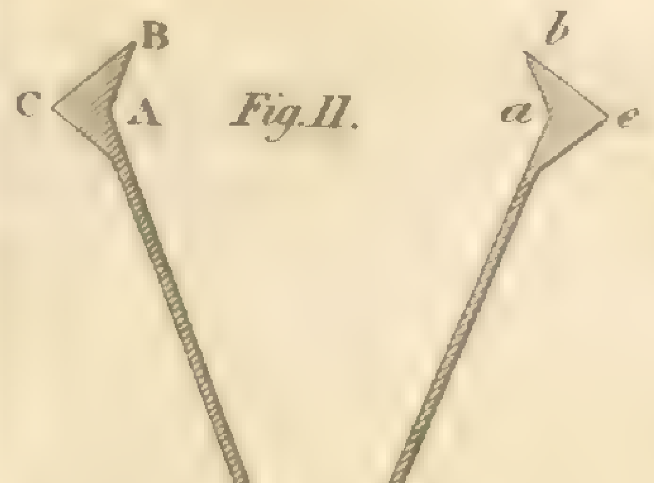

Fig. 11.

MARQUETRY

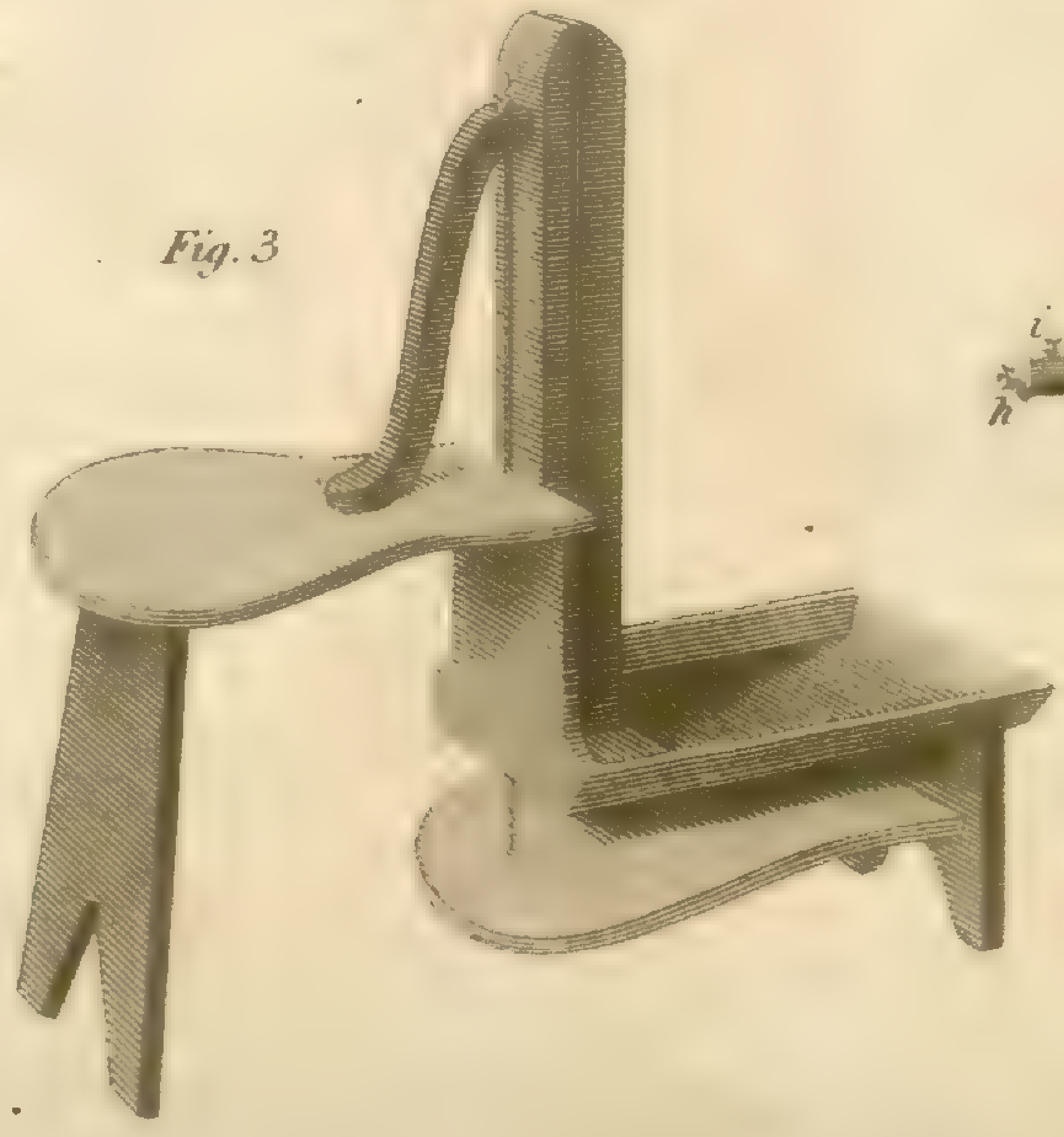

Fig. 3

Fig. 9

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GAS LIGHTS.

Fig. 1. Mr. Clegg's Apparatus.

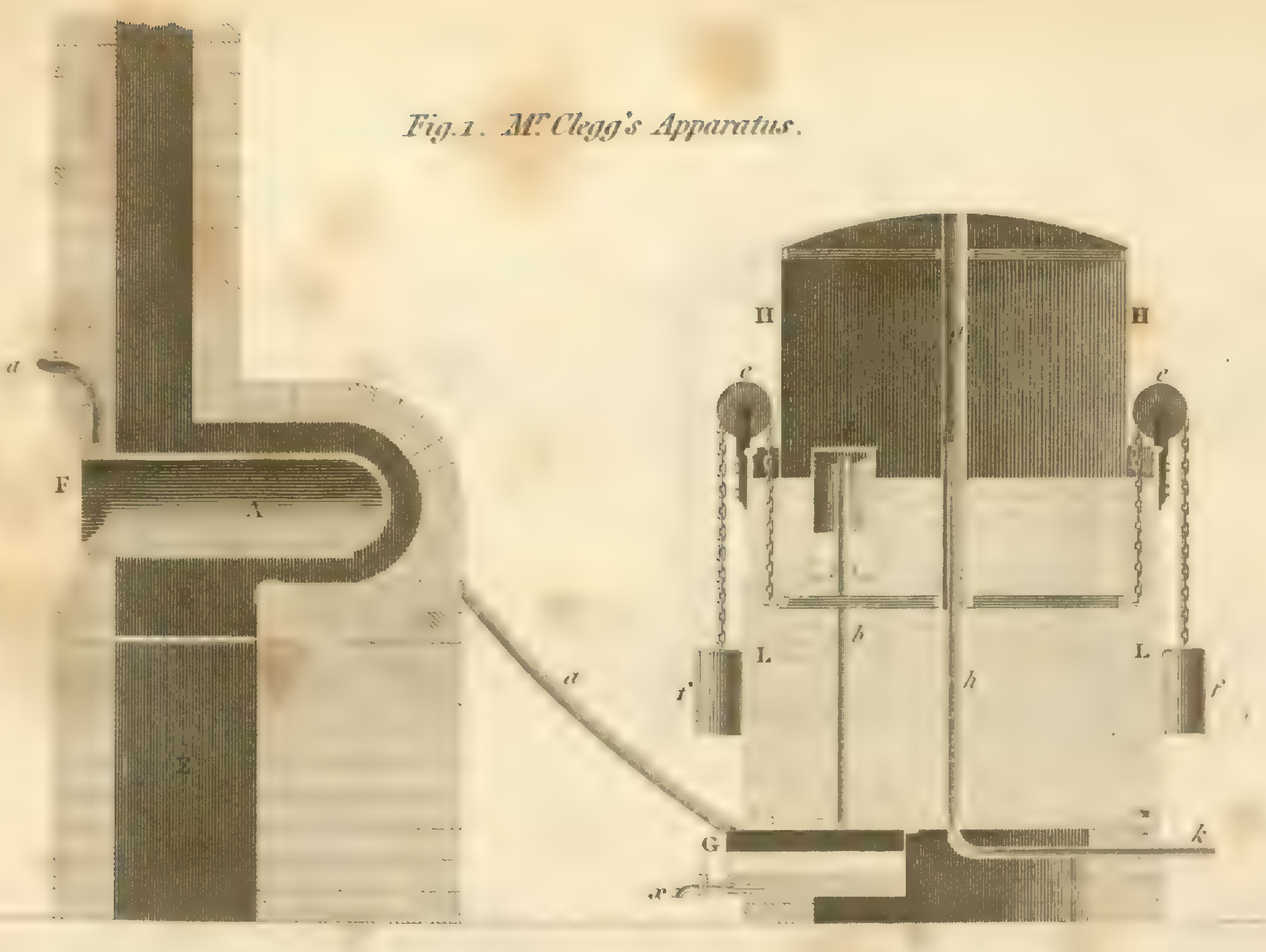


Fig. 2.

Fig. 3.

Fig. 4. Dr. Stancliffe's Apparatus.

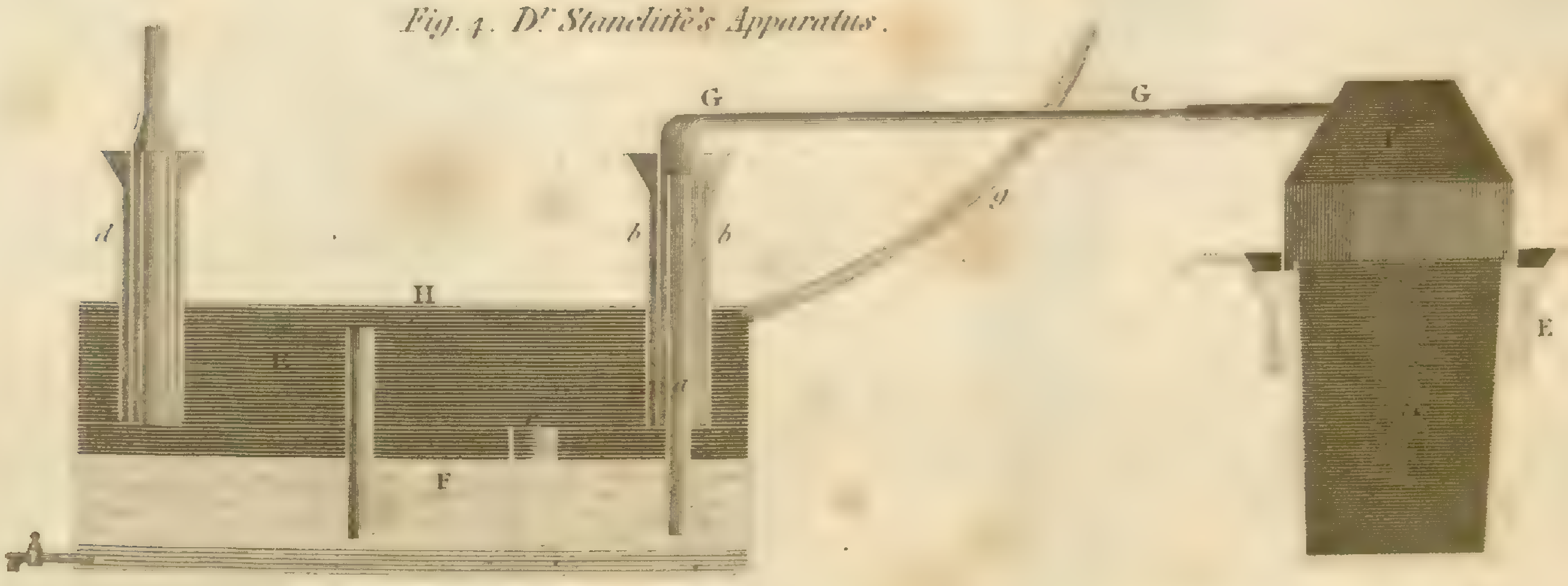
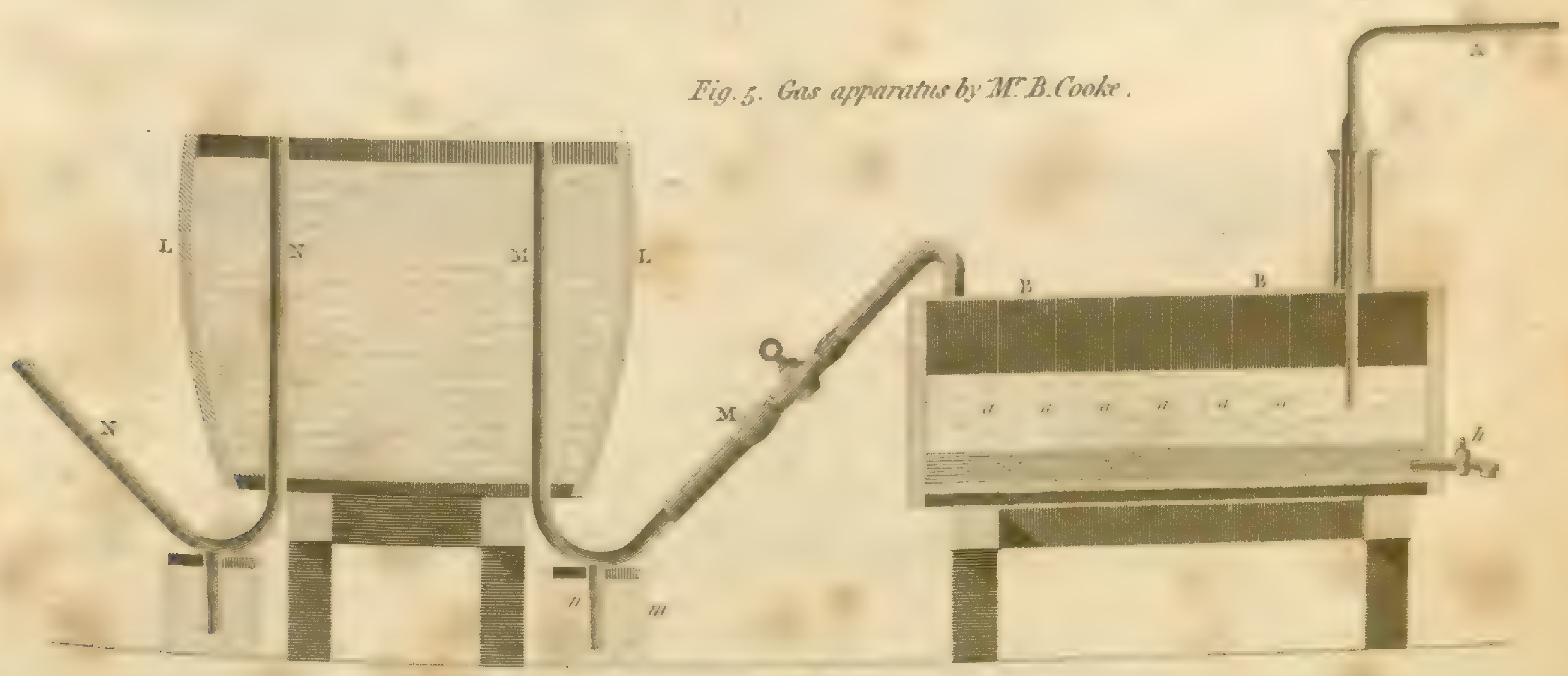


Fig. 5. Gas apparatus by Mr. B. Cooke.



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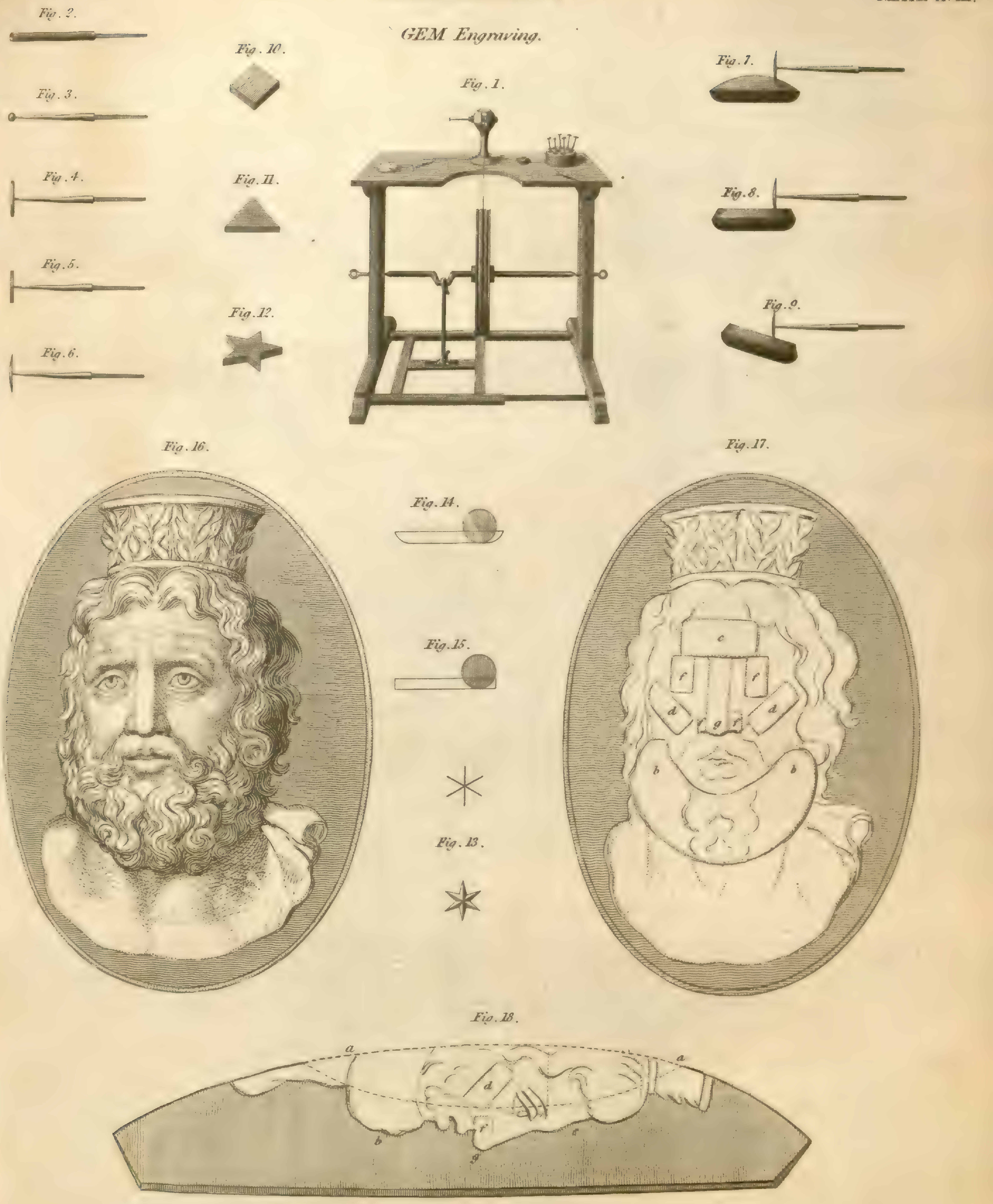
MISCELLANY.

GEM Engraving.



Drawn by Farey.
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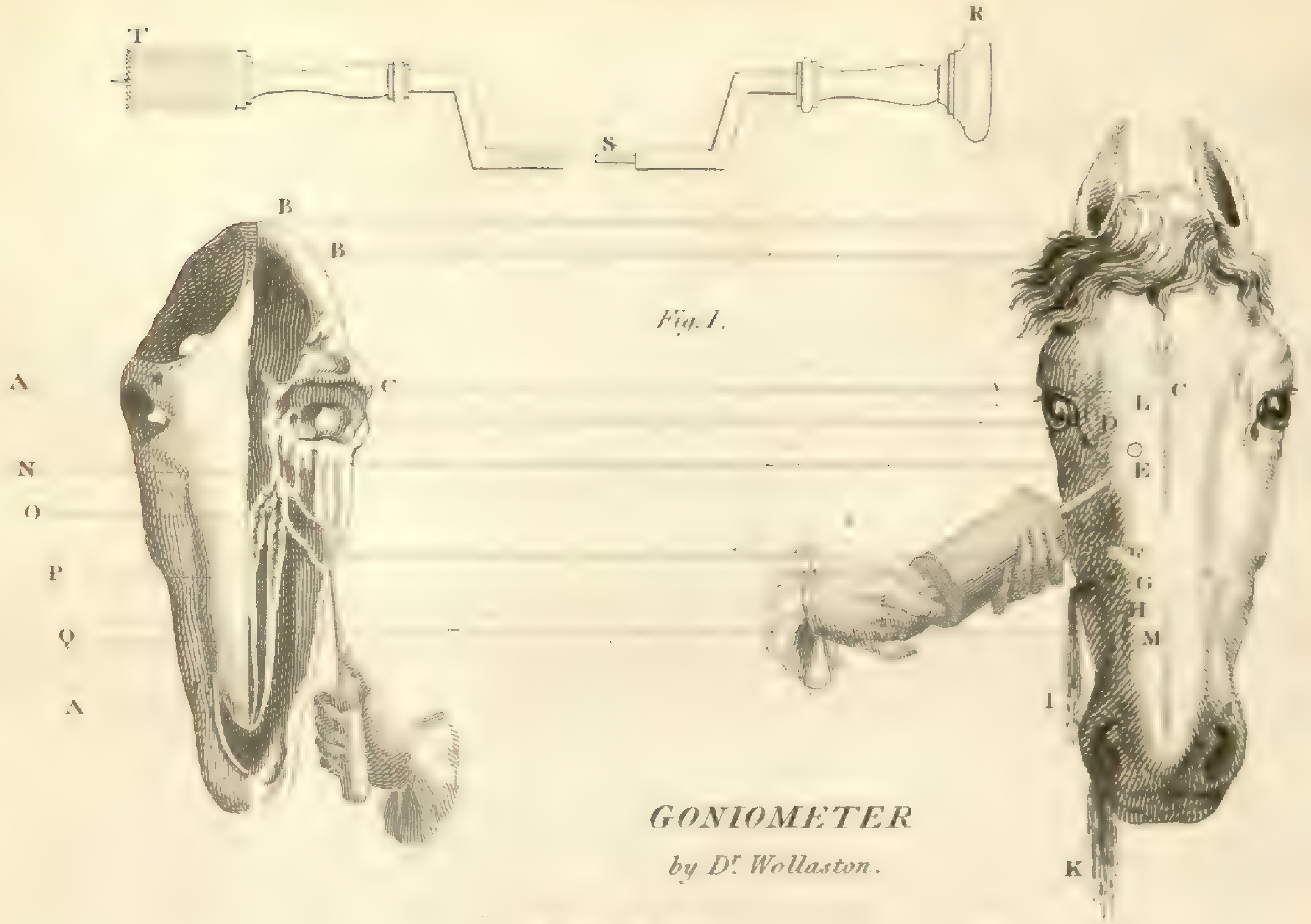
Engraved by W. Blake & W. Lowry.

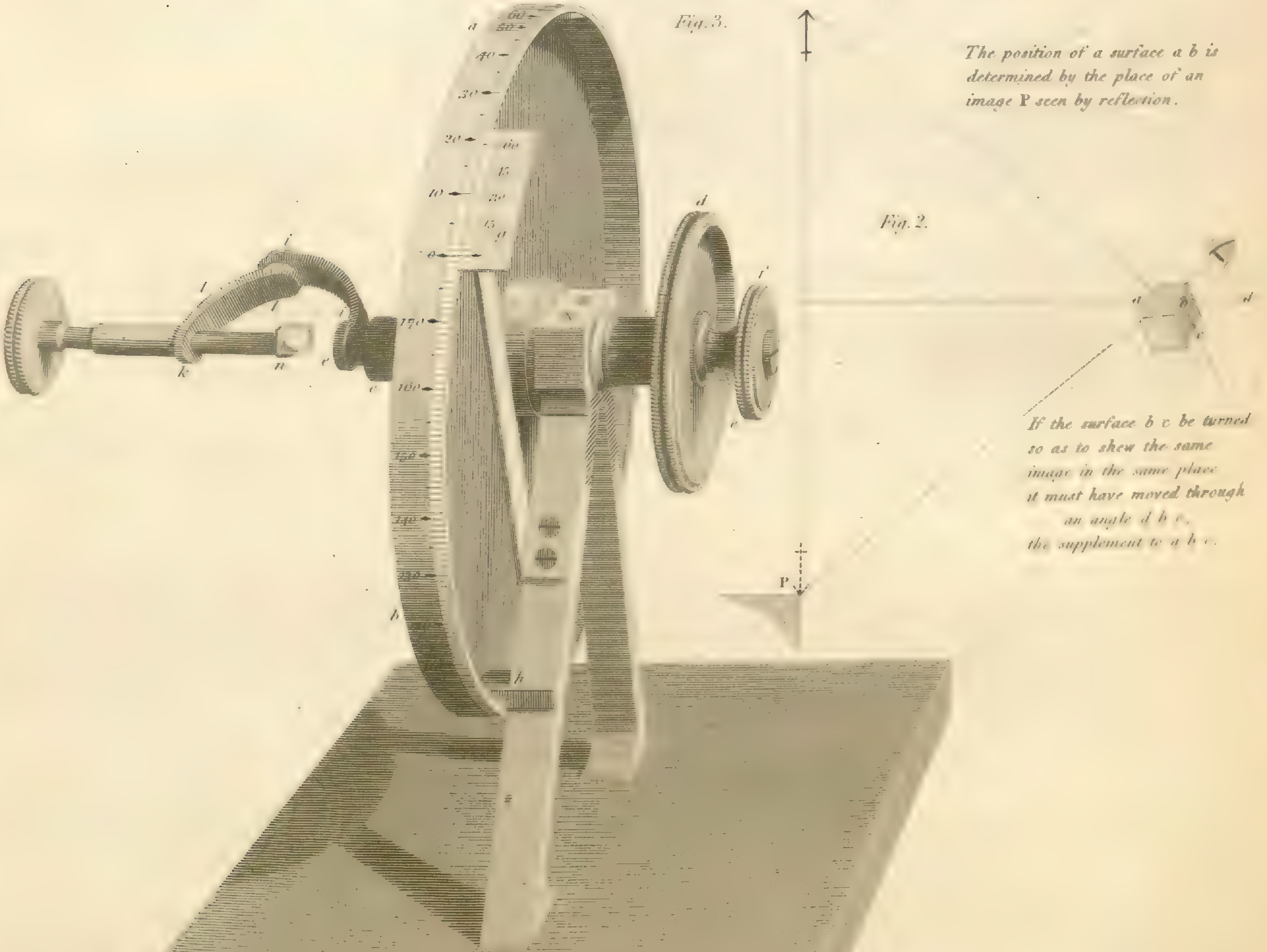
MISCELLANY.

GLANDERS.



GONIOMETER

by Dr. Wollaston.



BEE HIVE.

Fig. 1.

Fig. 2.

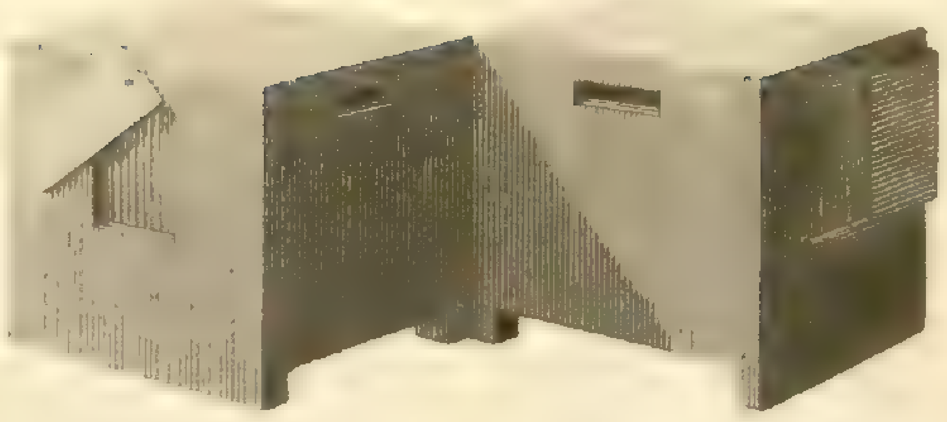


Fig. 3.

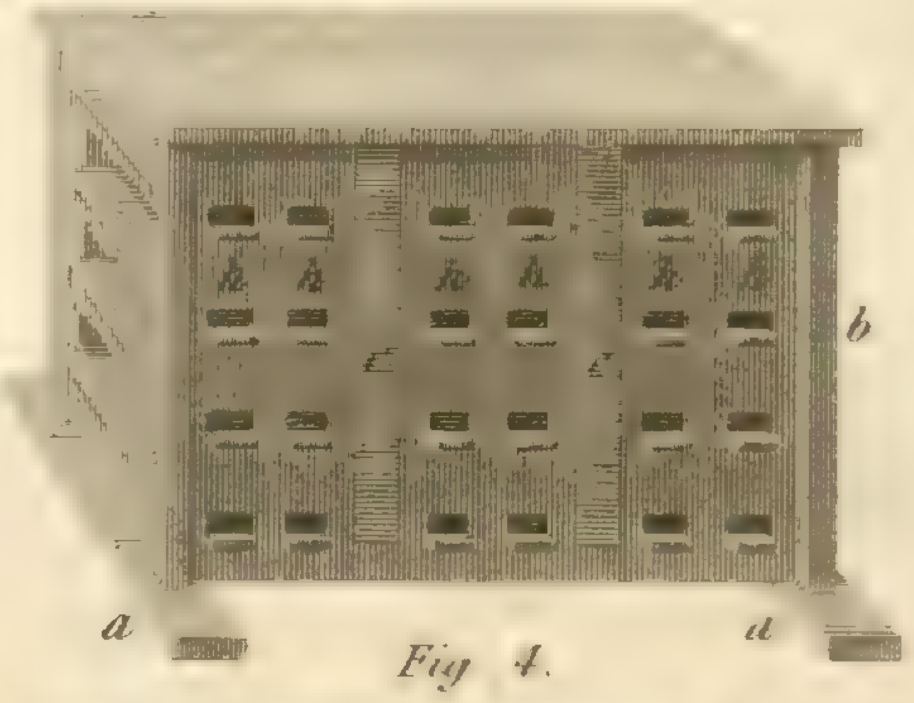
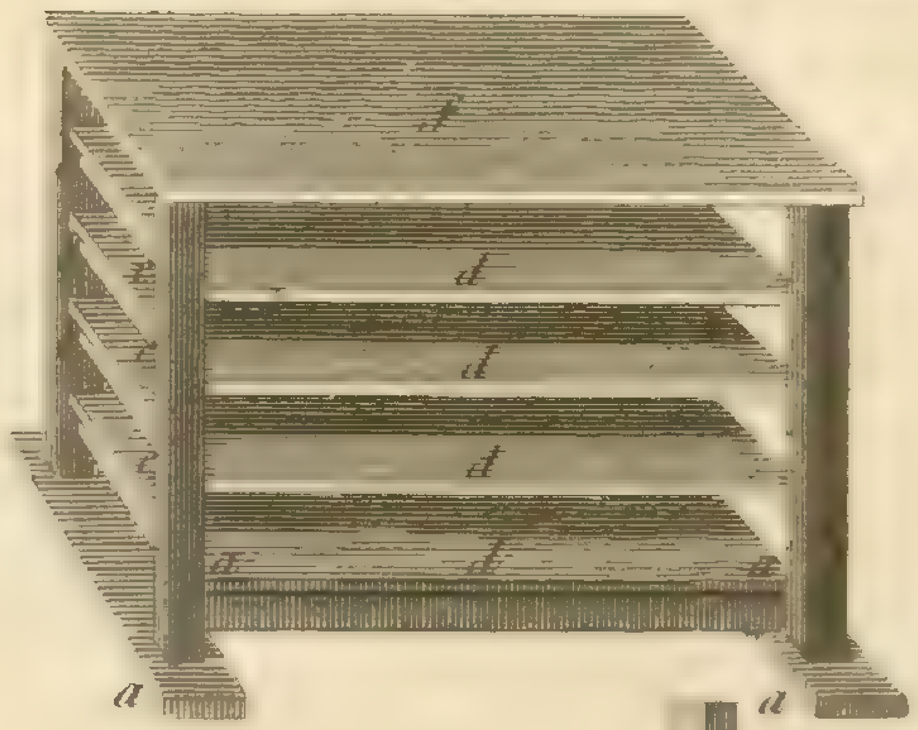


Fig. 4.



ICE HOUSE.

Fig. 5.

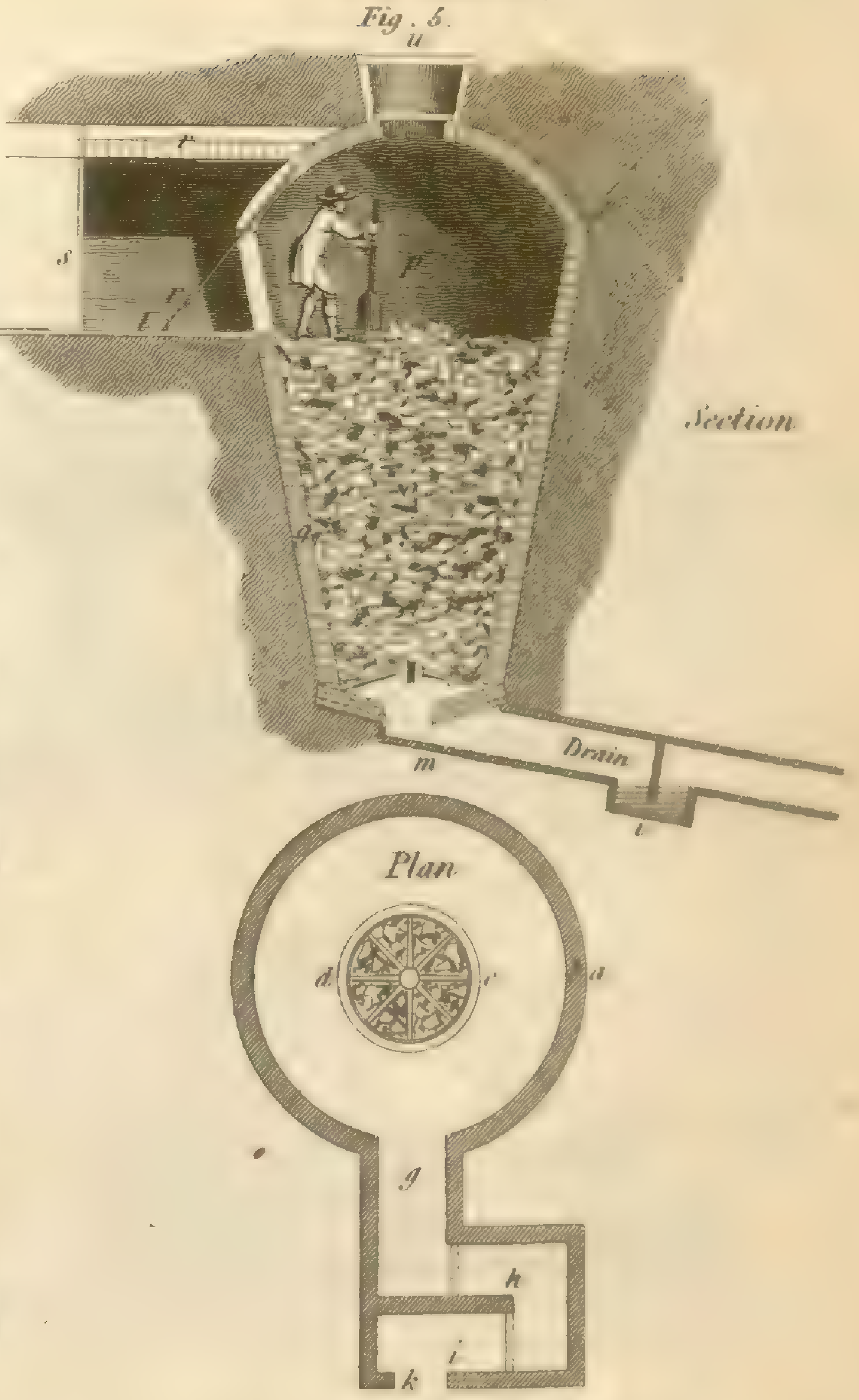
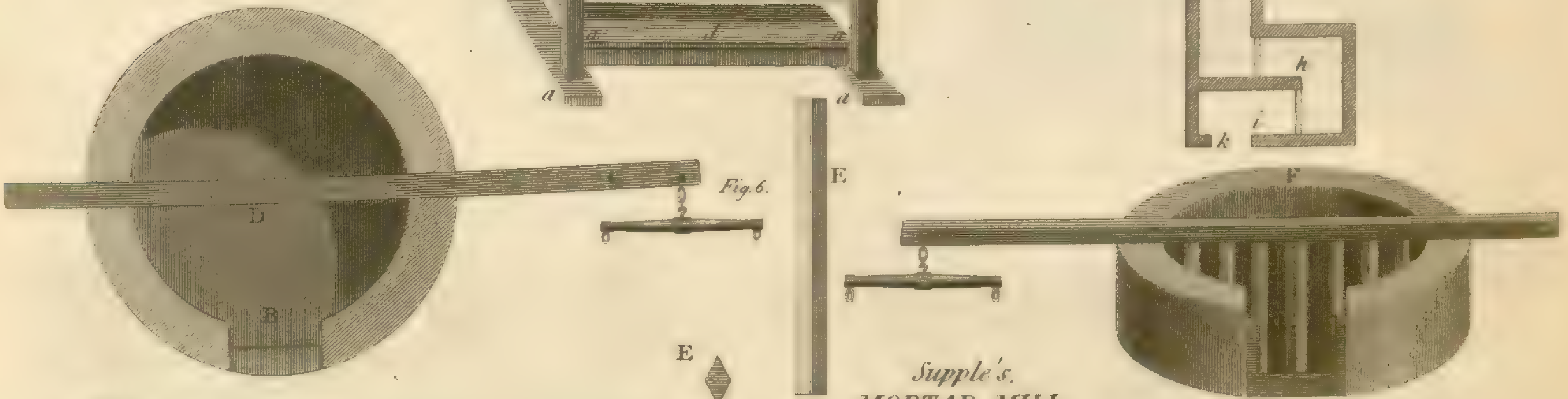


Fig. 6.



Supple's MORTAR MILL.

Fig. 8.

DRAPERY.

Fig. 9.

HORSE.

Fig. 7.

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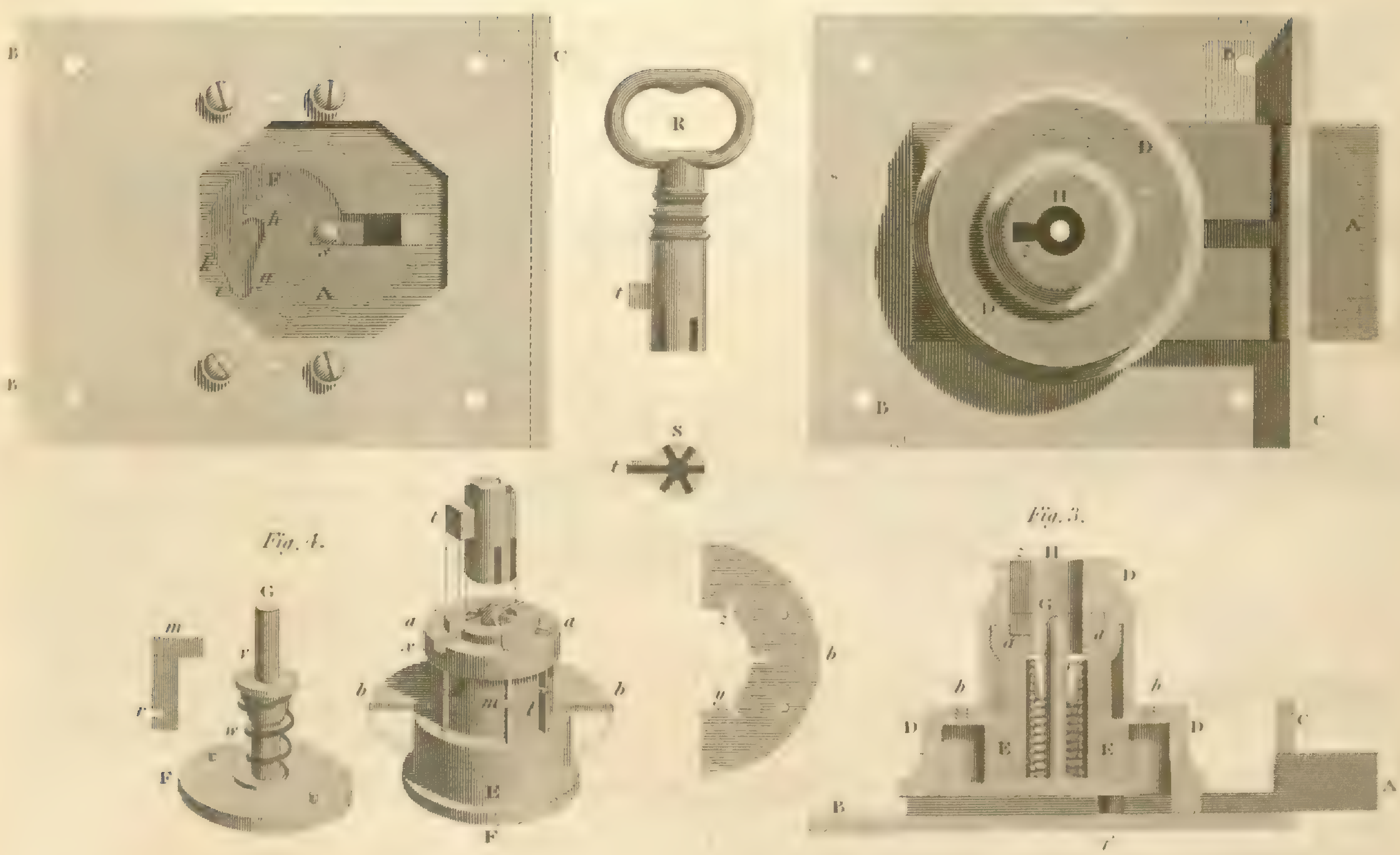
Lowry Sc.

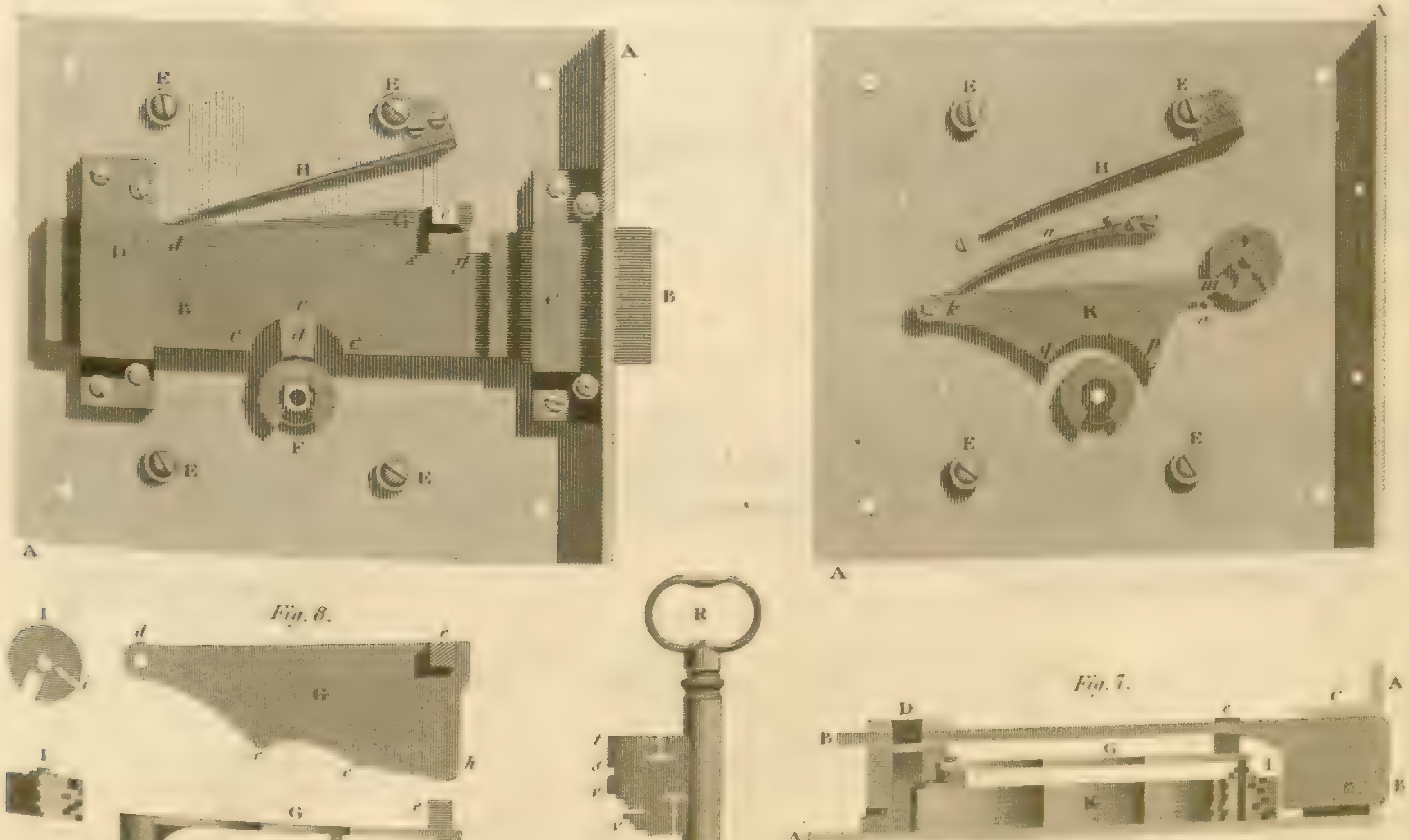
Mr. Bramah's Patent Lock.

Fig. 2. Fig. 1.



Mr. Rowntree's Patent Lock.

Fig. 6. Fig. 5.



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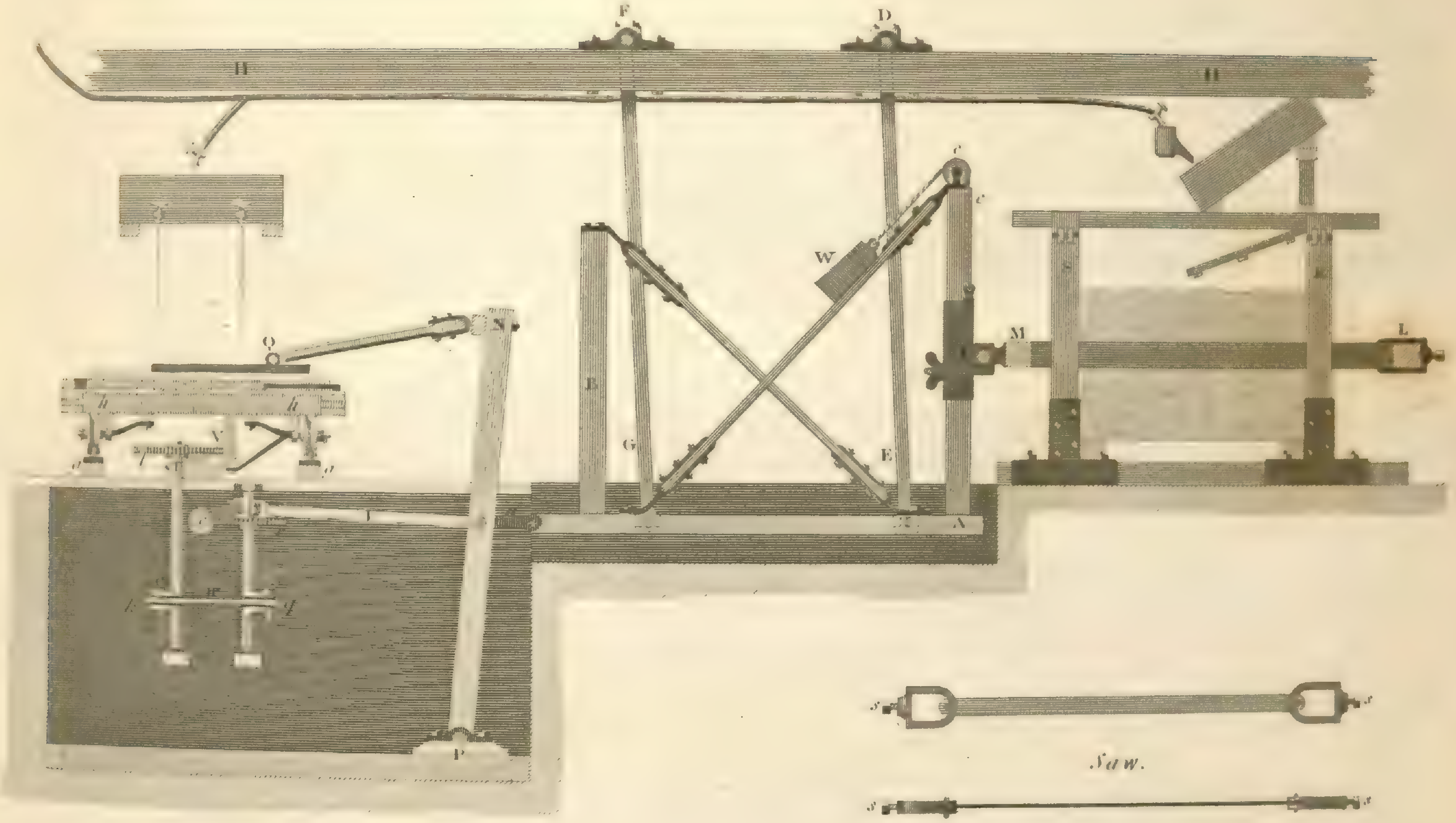
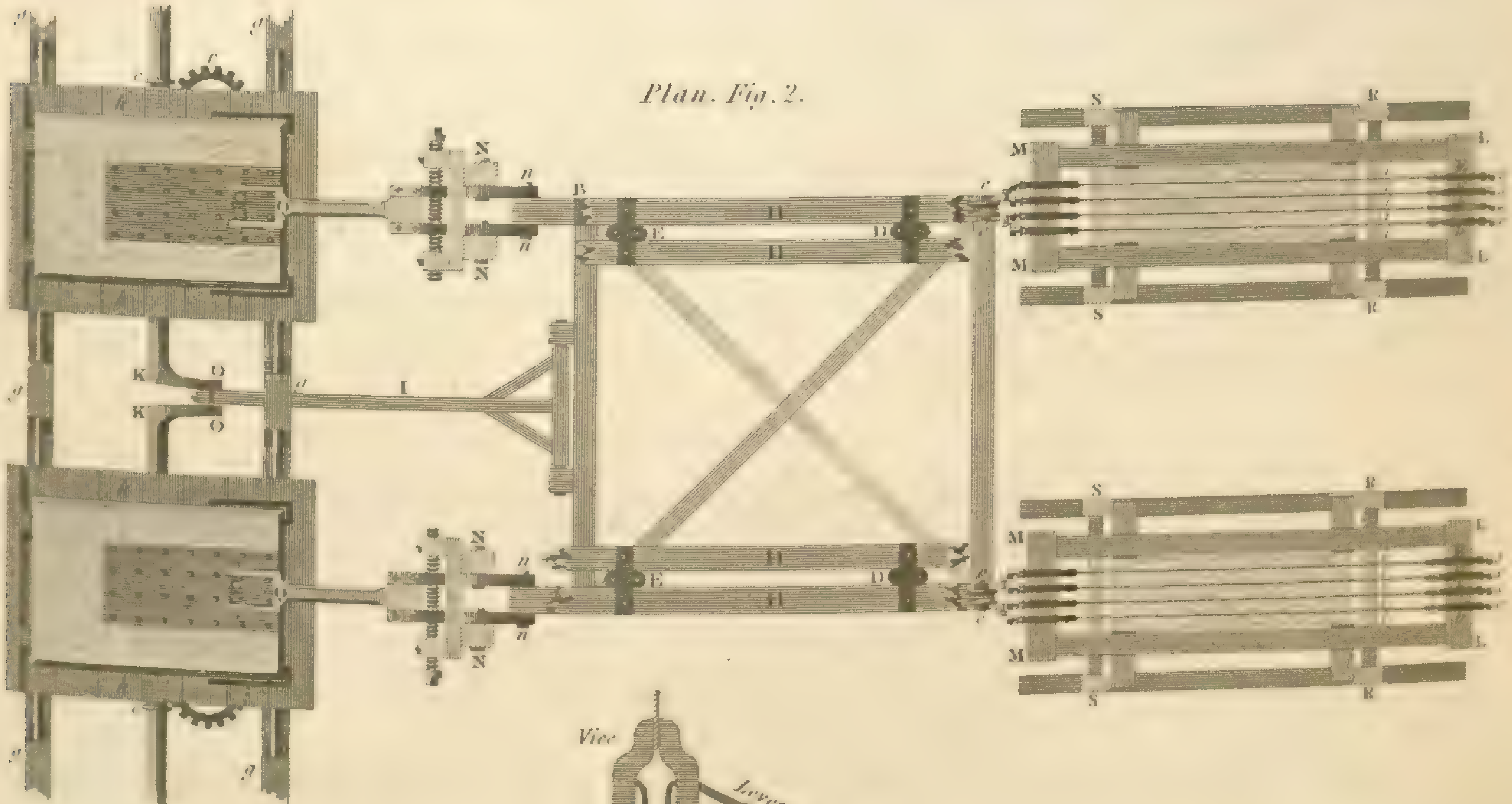
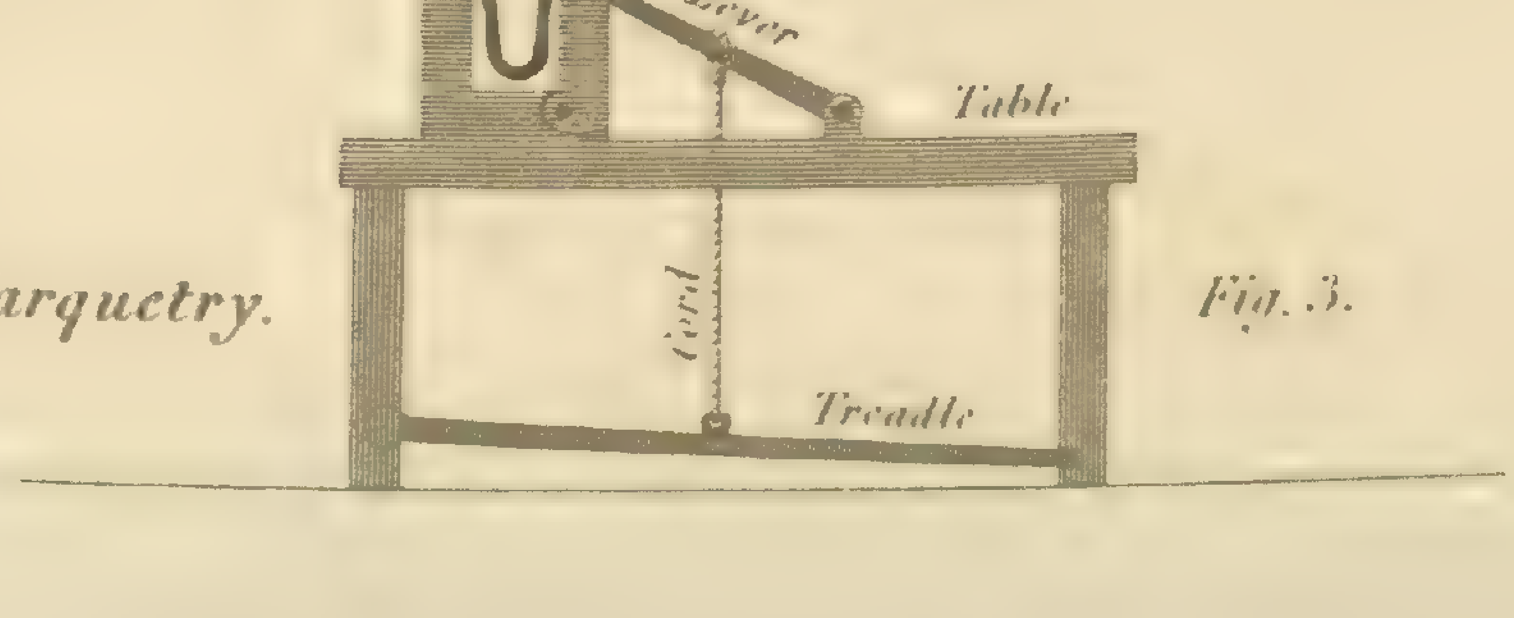
Elevation, Marble Mill, Fig. 1.



Saw.



Plan. Fig. 2.



Marquetry. Fig. 3.

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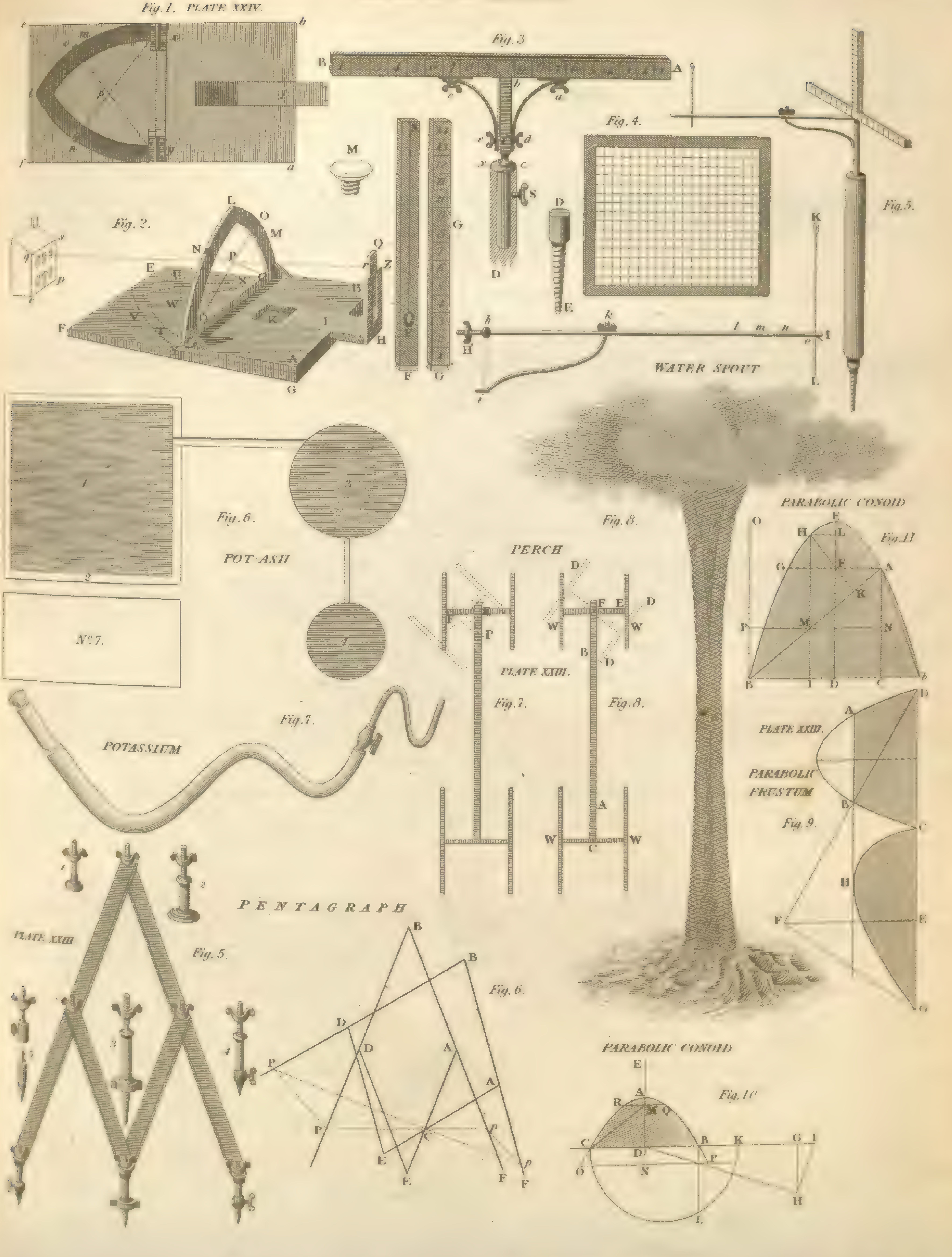
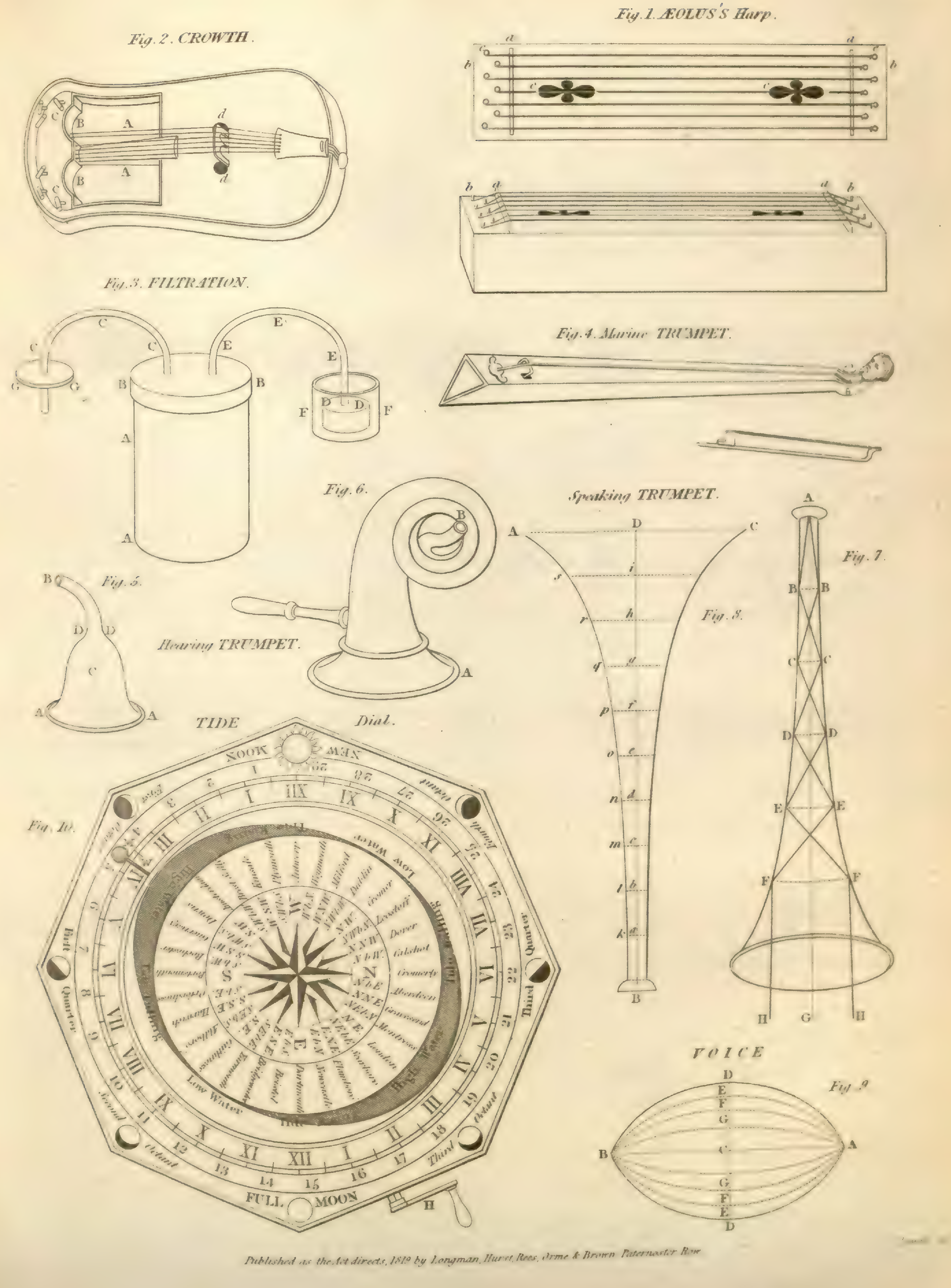
MISCELLANY.

PERSPECTIVE MACHINES





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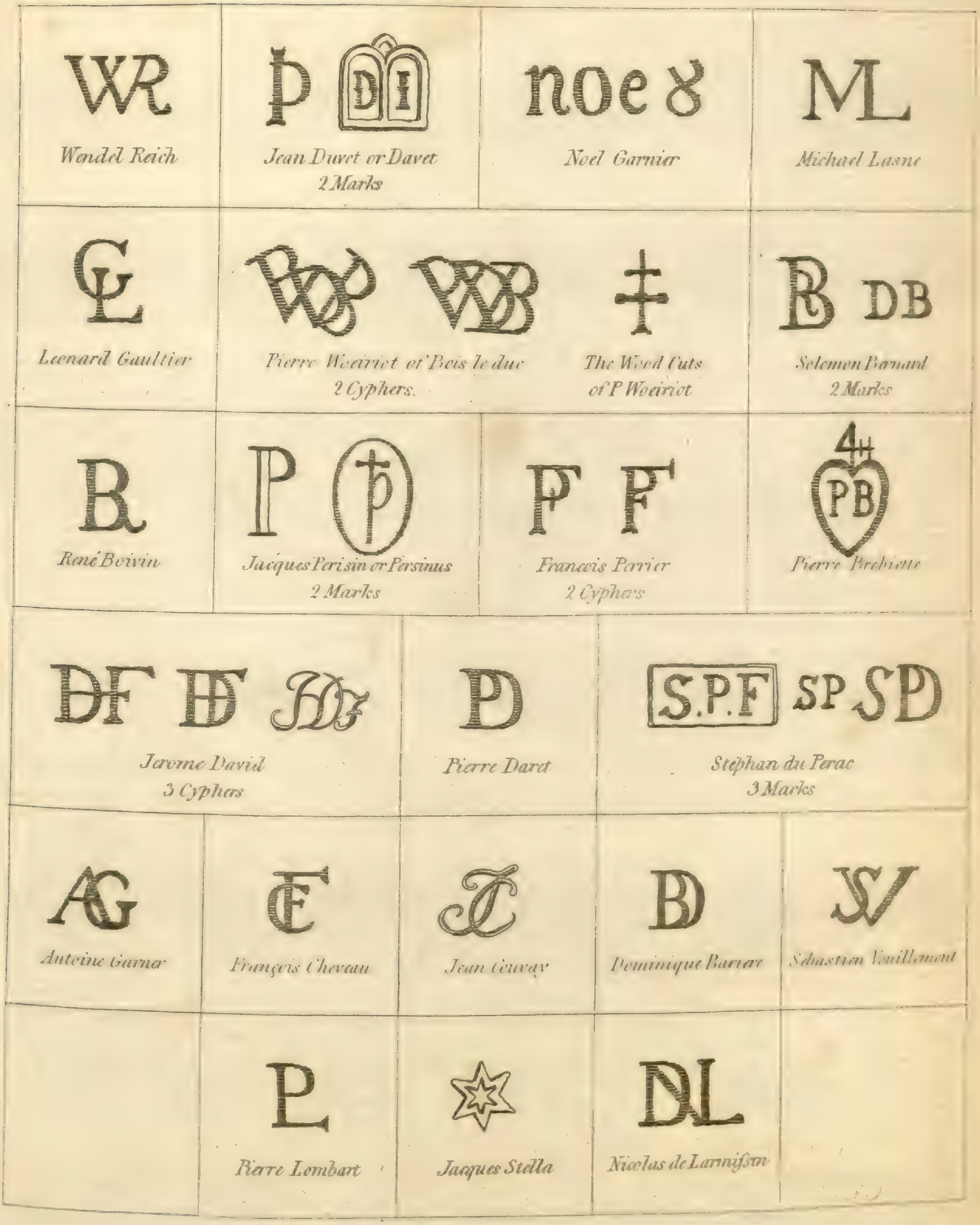
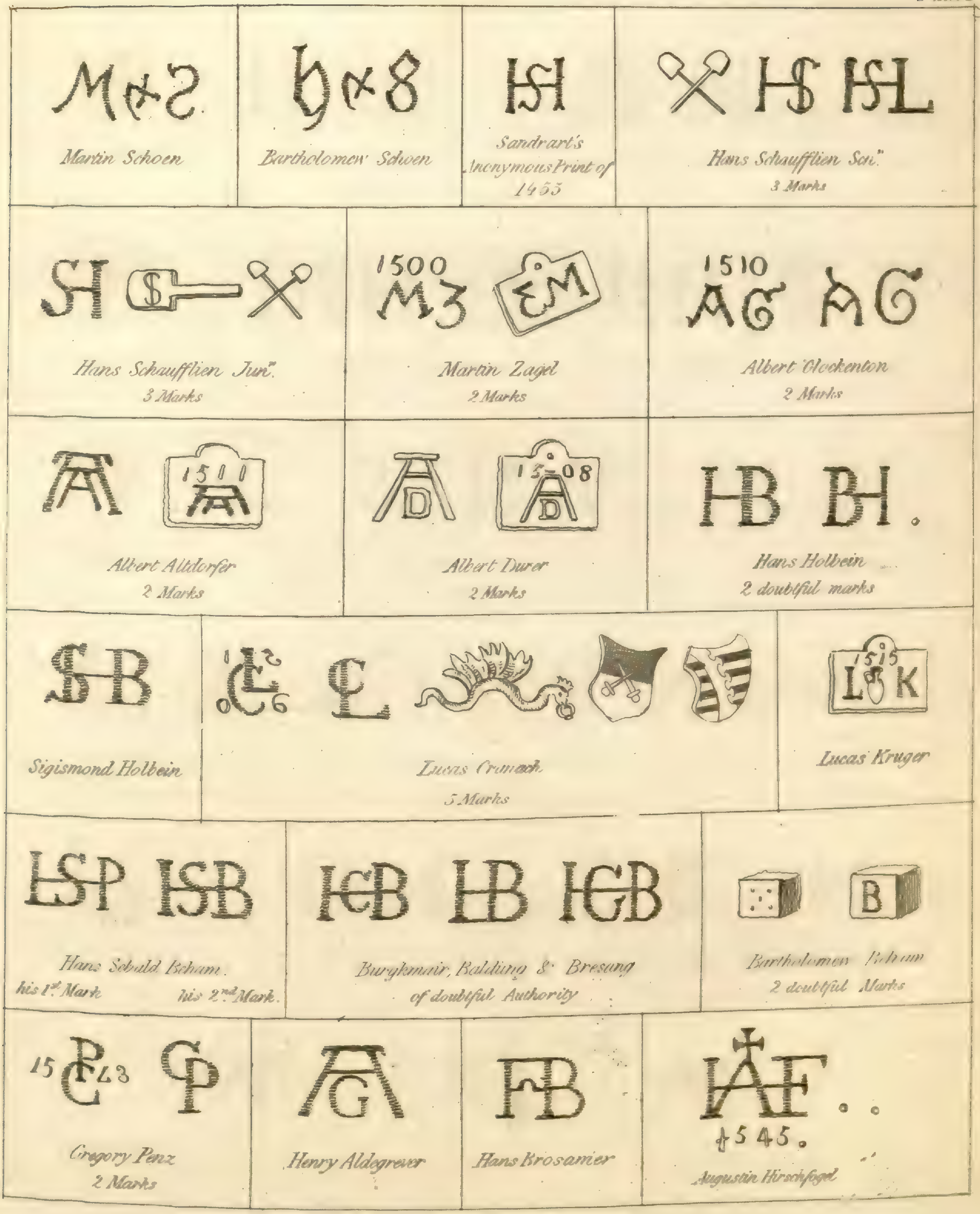
MONOGRAMS, &c.
used by the FRENCH Engravers



Published May 2^d 1810, by Longman & Co

MONOGRAMS &c
used by the GERMAN Engravers

Plate I



Published Sept.r 2 1810 by Longman & C.o

MONOGRAMS, &c.

used by the GERMAN Engravers.

Plate II.

Published 4th Nov. 1810. by T. Longman & Co.

MONOGRAMS, &c.
used by the GERMAN Engravers.

Plate III.

London Published 5th Octr 1810, by T. Longman & Co.

Monograms, &c.

used by the Engravers of the Low Countries.

Plate 1.

Published June 1st 1812, by T. Longman & Co. London

Monograms, &c.

used by the Engravers of the Low Countries.

Plate II.

Published June 4th 1812 by T. Longman & Co. London.

MONOGRAMS &c.

used by the Engravers of the LOW - COUNTRIES.

Plate III

Pub.d April 5. 1812 by T. Longman & C.o

MONOGRAMS &c.

used by the Engravers of the LOW-COUNTRIES.

Plate IV

Theodore van Kessel — Abraham Genoels — Herman van Swanevelt

John de Bischop or Episcopius — Lewin Cruyl — Bartholomew Breenbergh

John van Somer — James van den Hayden, 3 Marks — Robert van Audenaerde

A. F. Bargas — John van Huytenbourg — Peter van Bleck

William Buitenweg — John van den Bruggen — William de Leeuw

John van Londerseil — Herman Muller, 3 Marks — Peter Serwouters

London Pub.d Mar 1 1812, by T. Lenmann & Co.

MONOGRAMS, &c.
used by the ITALIAN Engravers.

Plate. I.

Published as the Act Directs, Nov. 5 1818, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

MONOGRAMS, &c.
used by the ITALIAN Engravers.

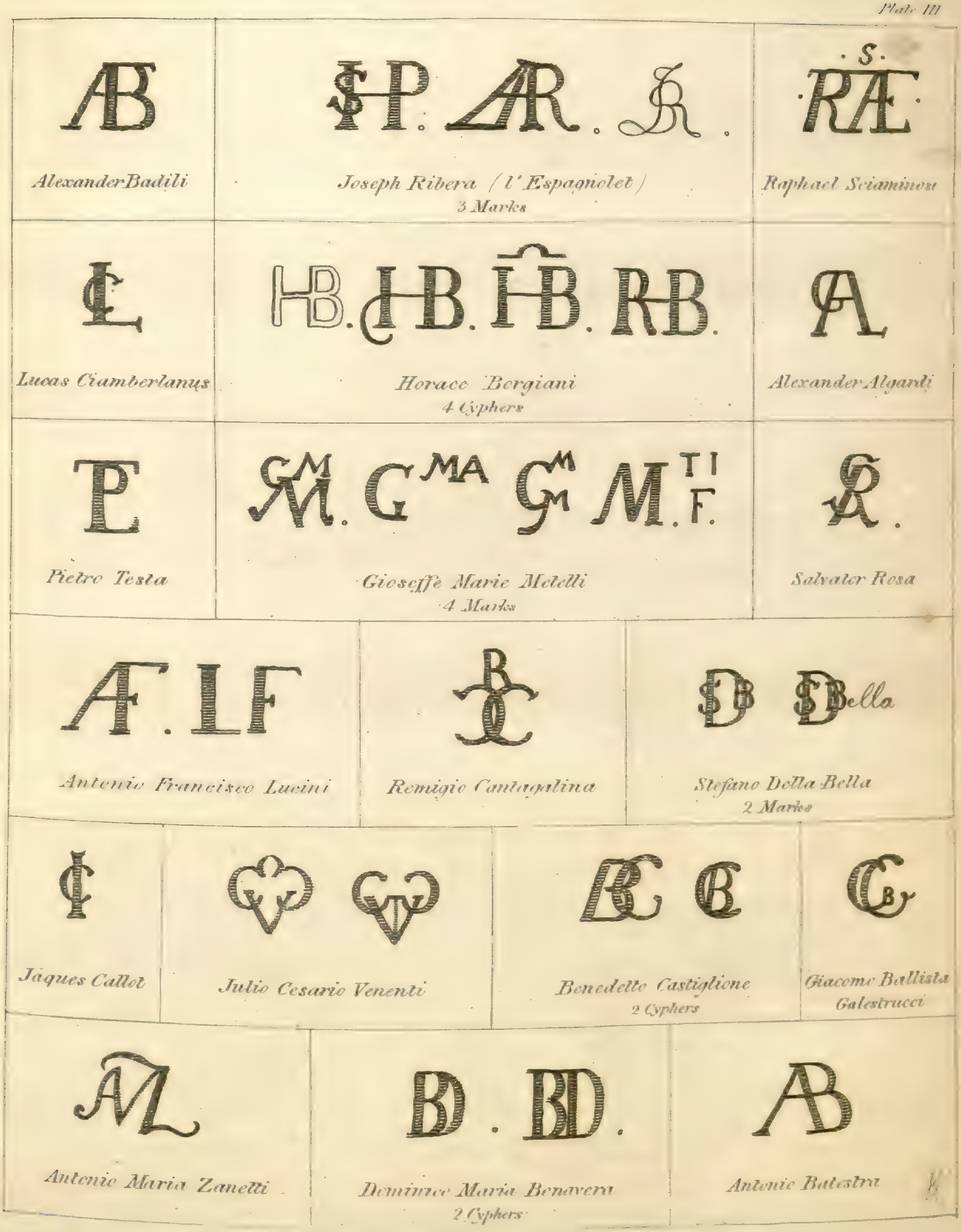
Plate II.

Published as the Act Directs Novr. 5 1818 by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

MONOGRAMS, &c.

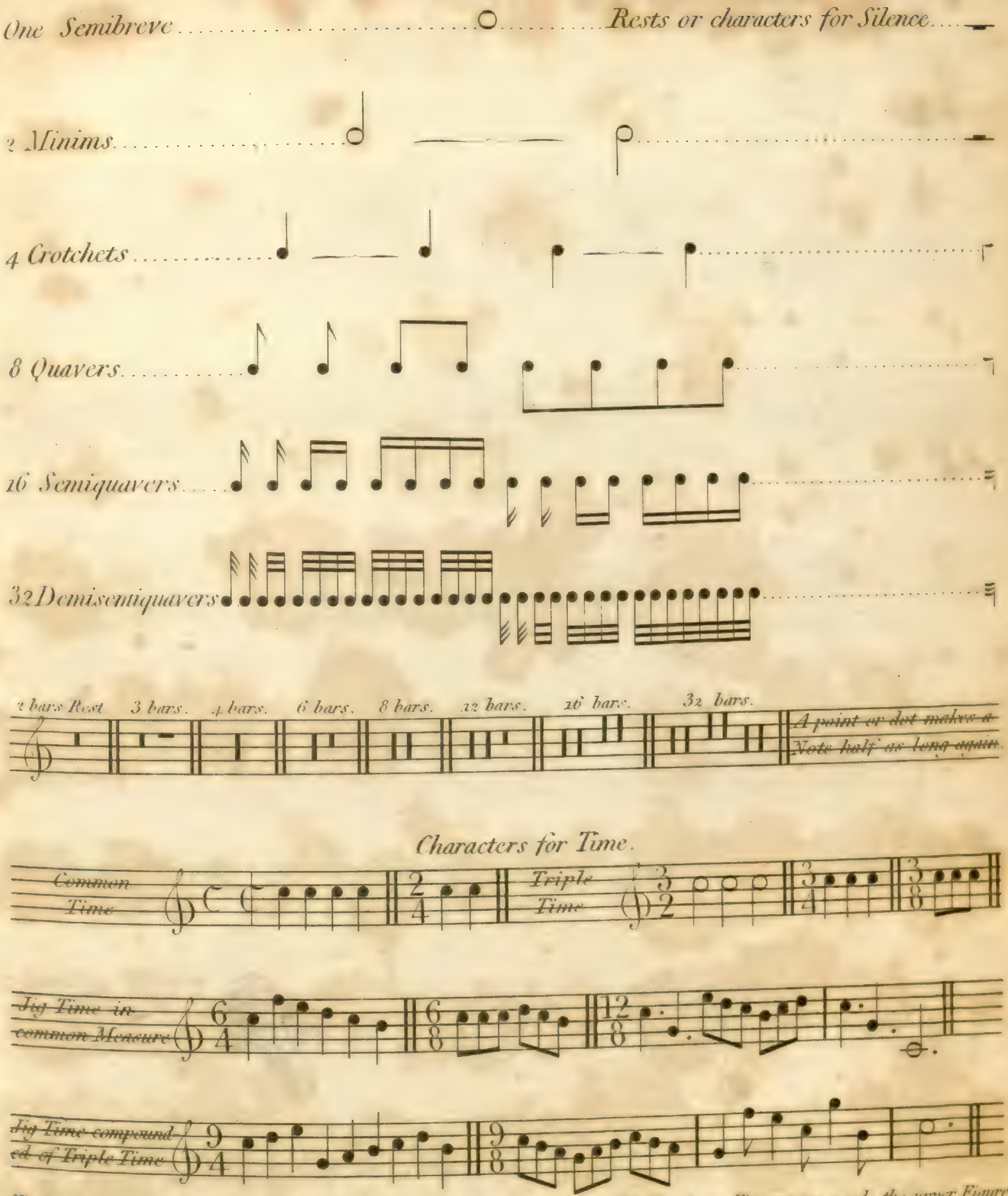
used by the ITALIAN Engravers.

Plate III



Published as the Act Directs, Nov.r 5 1818, by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row.

MODERN TIME-TABLE.

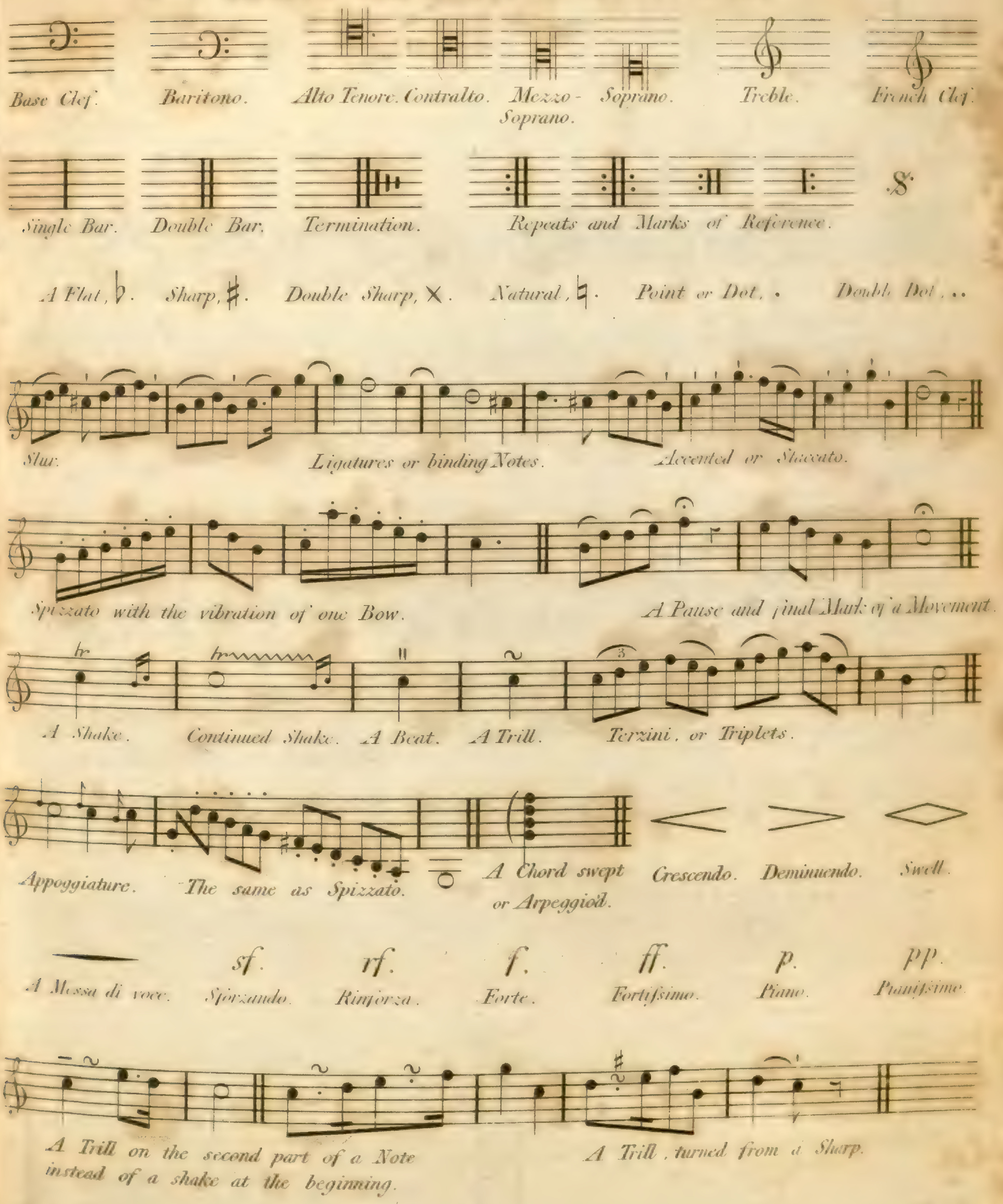


N.B. In the characters for Time which used to be called the Moods or Modes, where Figures are used, the upper Figure tells how many Notes there are in each Bar, and the under Figure tells of what kind: $\frac{2}{4}$ implies 2 Crotchets or Notes so called in the Time Table $\frac{3}{2}$ three Minims $\frac{3}{4}$ three of the 4 Crotchets in the Time Table that are equal to one Semibreve &c.

Published as the Act directs Decr. 1st 1806, by Longman Hurst, Rees & Orme Paternoster Row.

MUSICAL CHARACTERS.

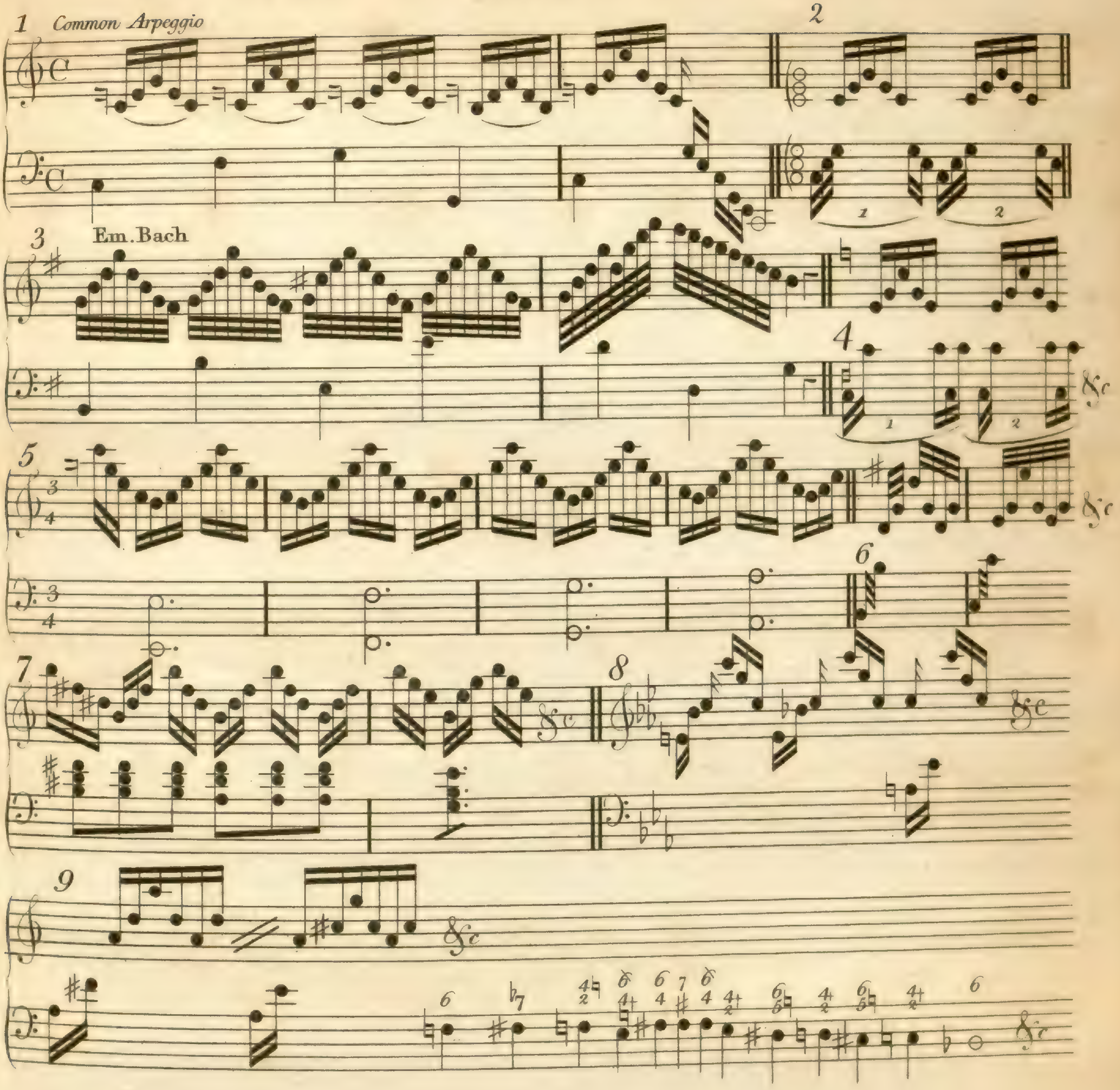
GRACES AND MARKS OF EXPRESSION.



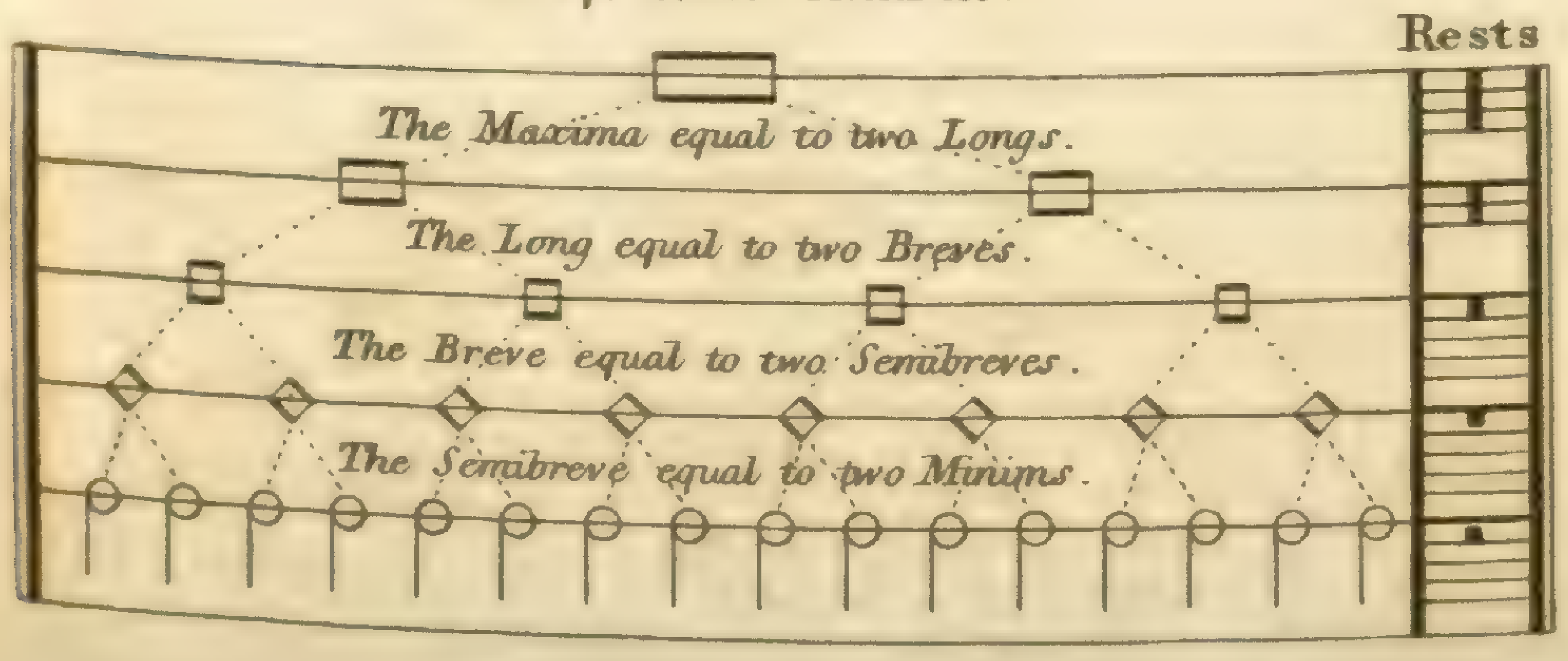
Published as the Act directs, Decr. 1st. 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

MUSIC.

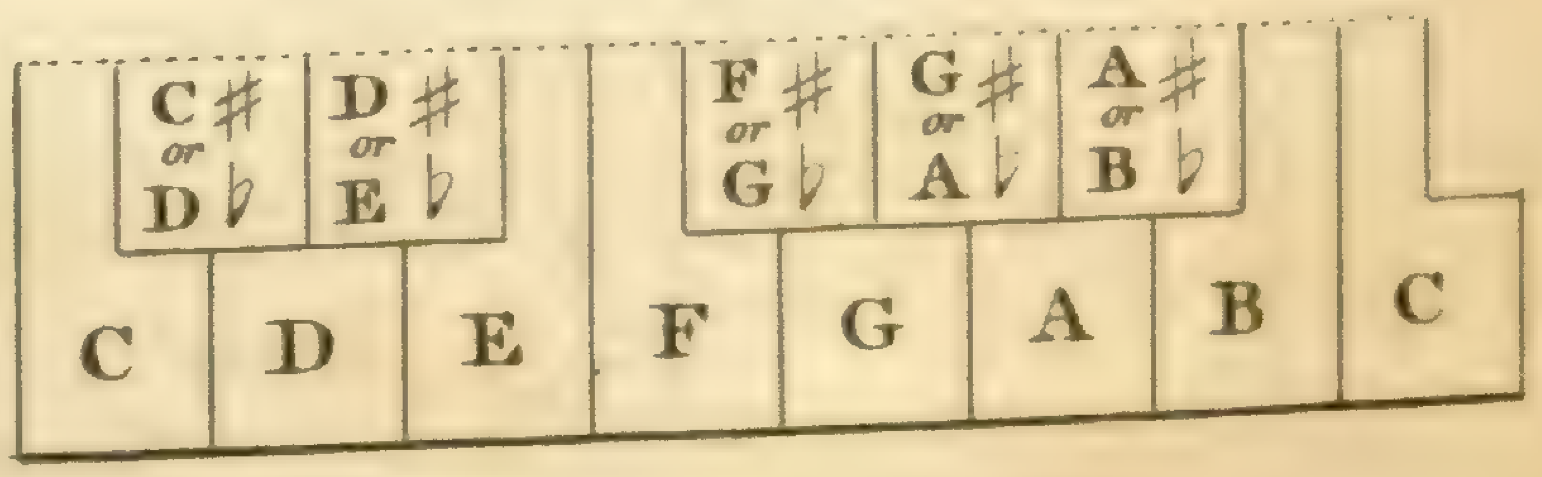
ARPEGGIO.



Ancient Musical Characters, of the 14th and 15th Centuries.



Arrangement of the Set of Keys, on Key'd Instruments.



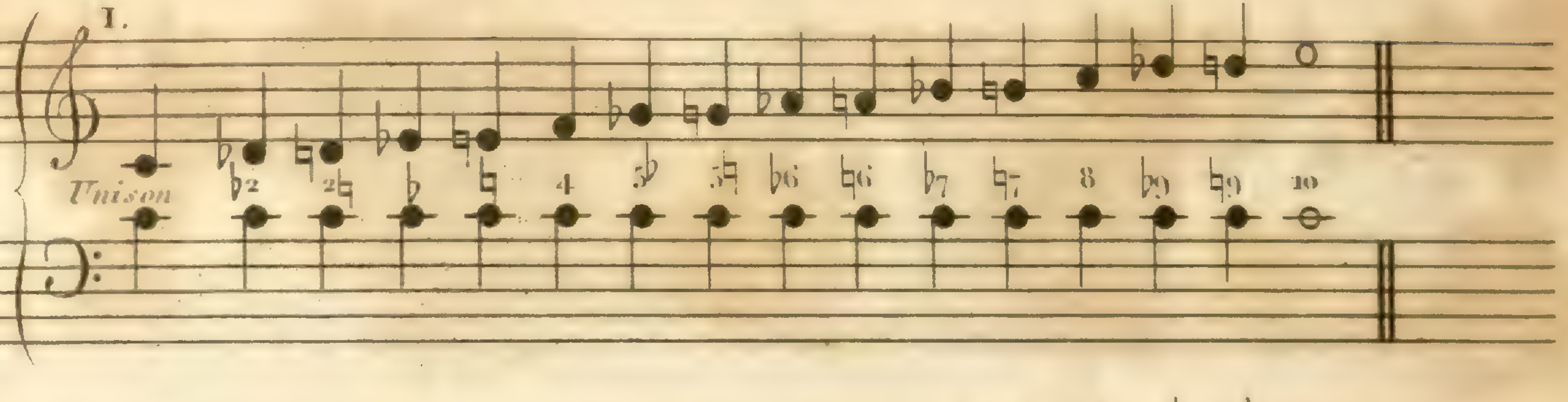
Published as the Act directs, Jan.y 1. 1803, by Longman & Rees Paternoster Row.

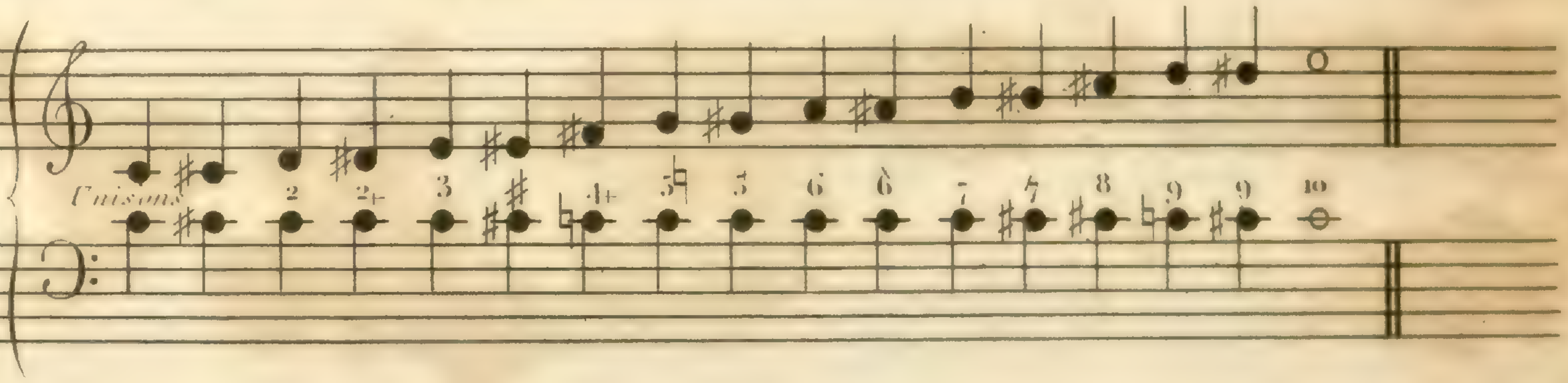
Engraved by Wilson Lowry

THOROUGH BASE, OR ACCOMPANIMENT.

Table of Intervals.

I.





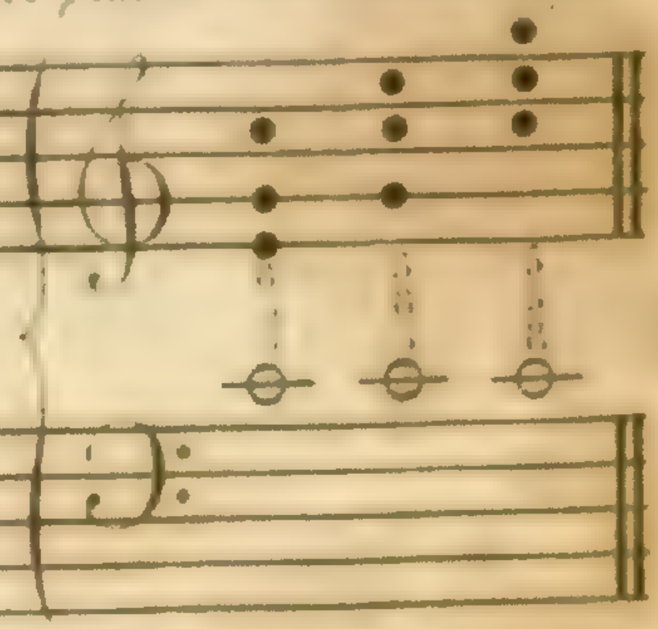
II Semitones in each Interval.

a Minor or flat	2.d	is one semitone or half-note above the base.
a Major or whole	2.d	is two semitones above the base.
a Minor or flat	3.d	3
a Major or sharp	3.d	+ 4
a	4.th	5
a Tritonus or sharp	4.th	6
a	5.th	+ 7
a Minor or flat	6.th	8
a Major	6.th	9
an extreme sharp	6.th	10
a flat	♭7.th	10
a Major or sharp	7.th	11
an Octave or	8.th	+ 12
a flat	♭9.th	13
a Major or sharp	9.th	14

N.B. The figures to which a + is prefixed are those which compose the 3.d 5.th & 8.th or common chord Major

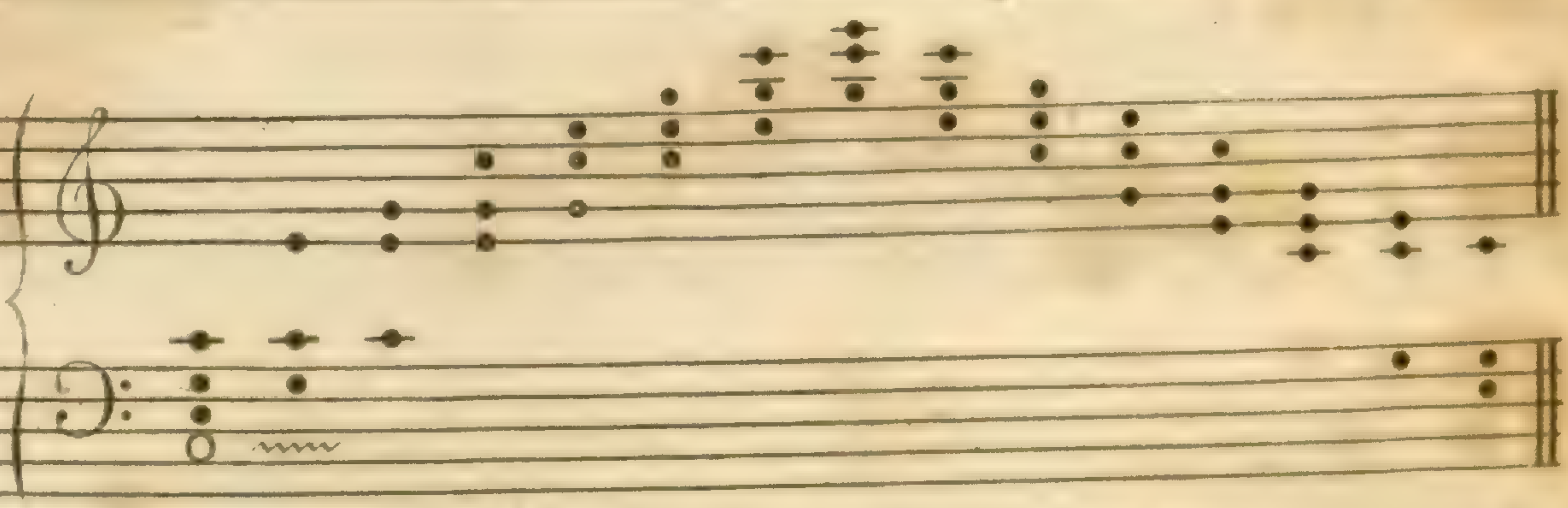
None but integers are used in figuring a base, as the 10.th is but the octave of the 3.d the 11.th of the 4.th the 12.th of the 5.th &c.

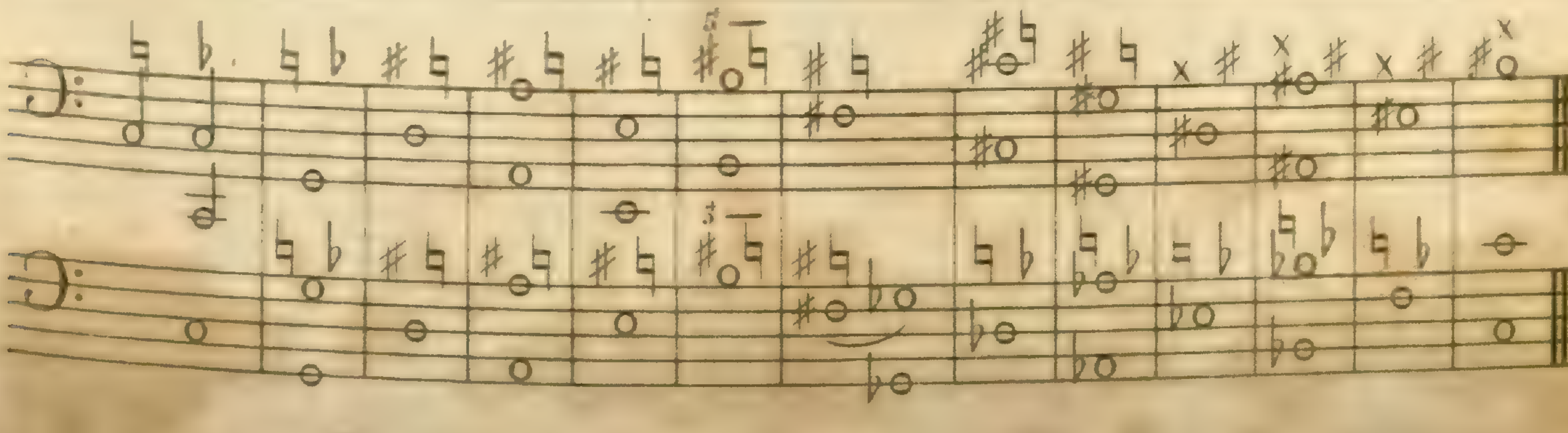
A common or perfect Chord is composed of the 8 5 3 above the base & may be plac[ed] [i]n several ways



III. Harmonical circle, Modulating by 5.ths

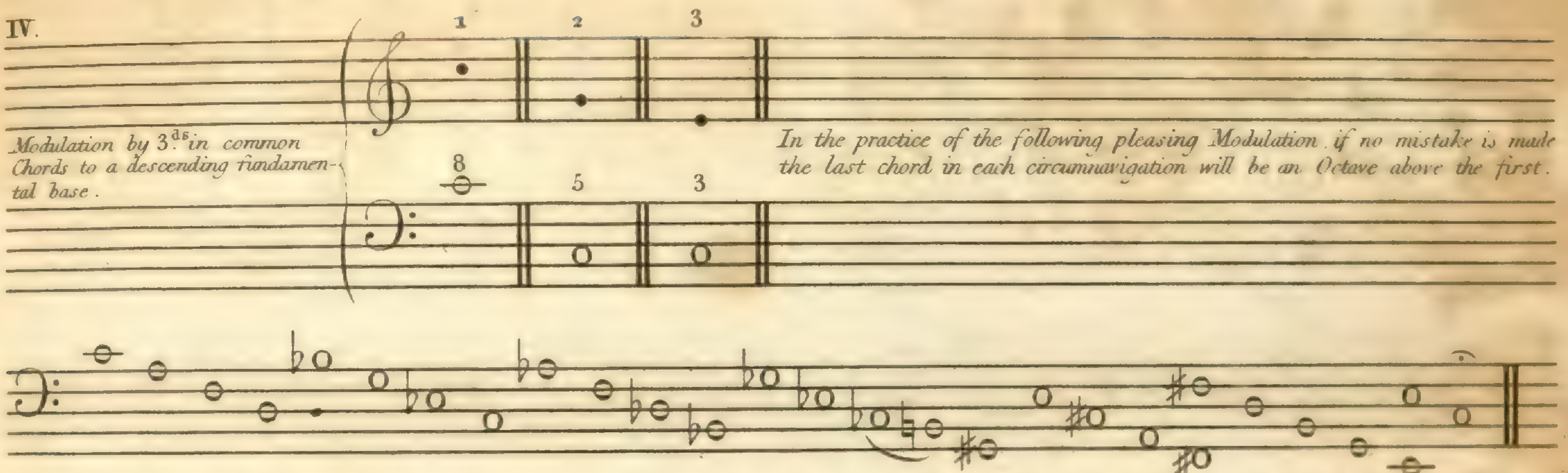
The common chord major and minor to all the 12 semitones in the Octave, should be practiced upwards and downwards in the following manner, till equally known all over the Instrument.





N.B. In this example in which the Base rises by 5.ths the 5.th of the [first] [chord] becomes the [root] [of the next].

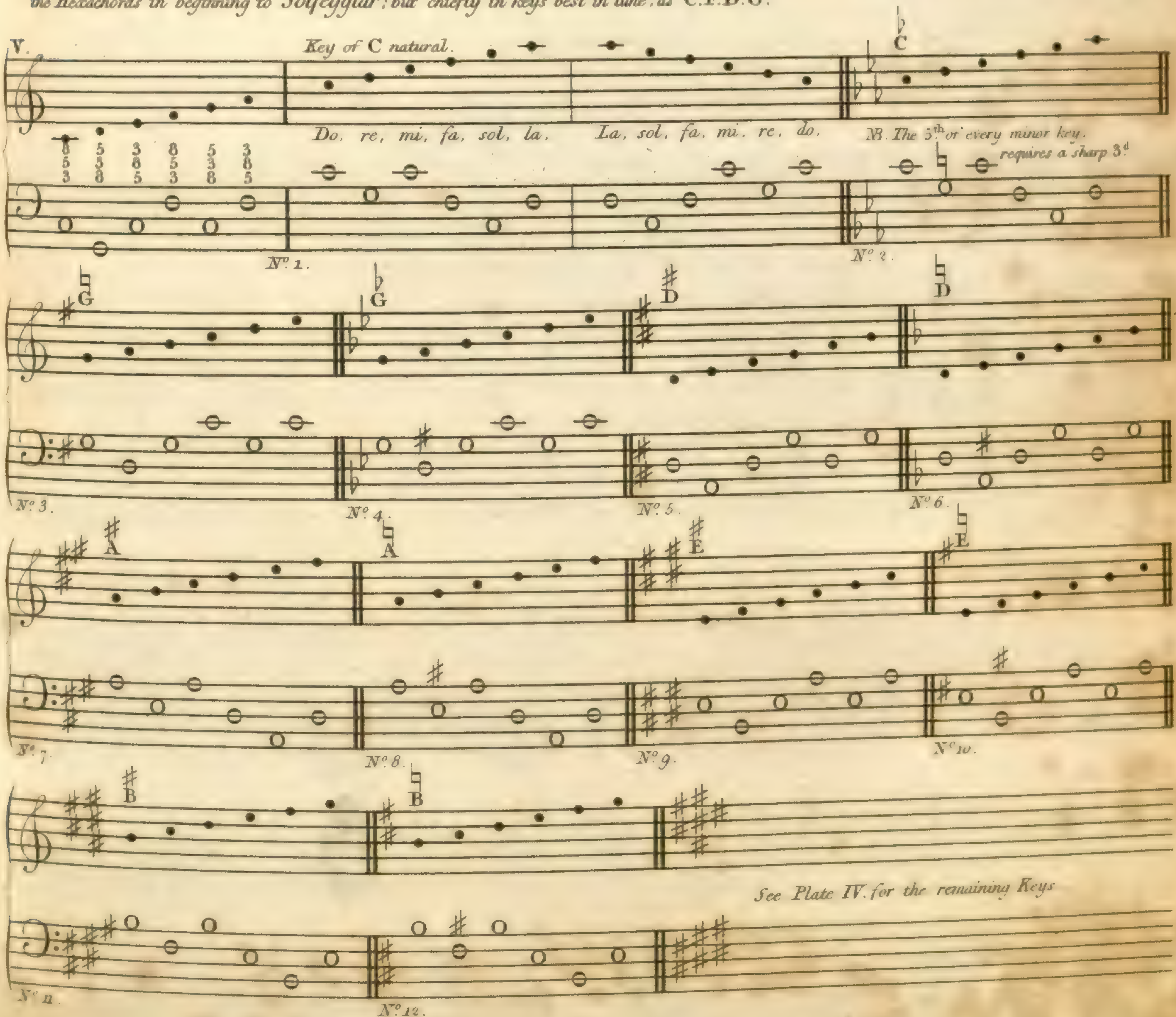
THOROUGH BASE.



Modulation by 3ds in common Chords to a descending fundamental base.

In the practice of the following pleasing Modulation, if no mistake is made the last chord in each circumnavigation will be an Octave above the first.

Further exercise of common chords in accompanying the Hexachords in all the keys, major and minor to their fundamental bases. In the practice of which dots are placed on the notes in the treble that are to be played with the little finger; and though only the first of the Hexachords is written backwards, each of them is intended to be practiced backwards as well as forwards.— Italian students in singing are long confined to the Hexachords in beginning to Solfeggiar; but chiefly in keys best in tune, as C.F.♯D.G.



See Plate IV. for the remaining Keys

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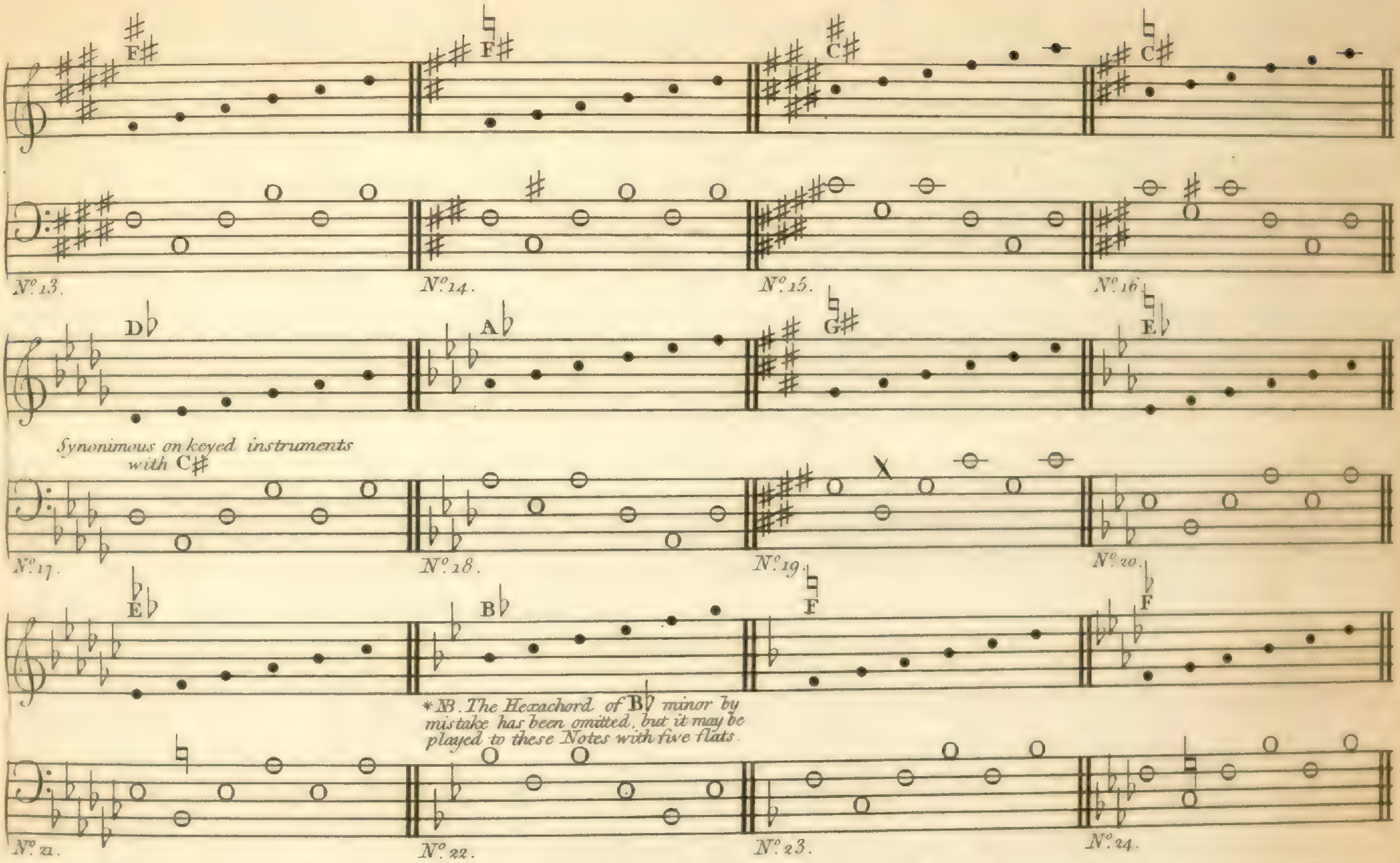
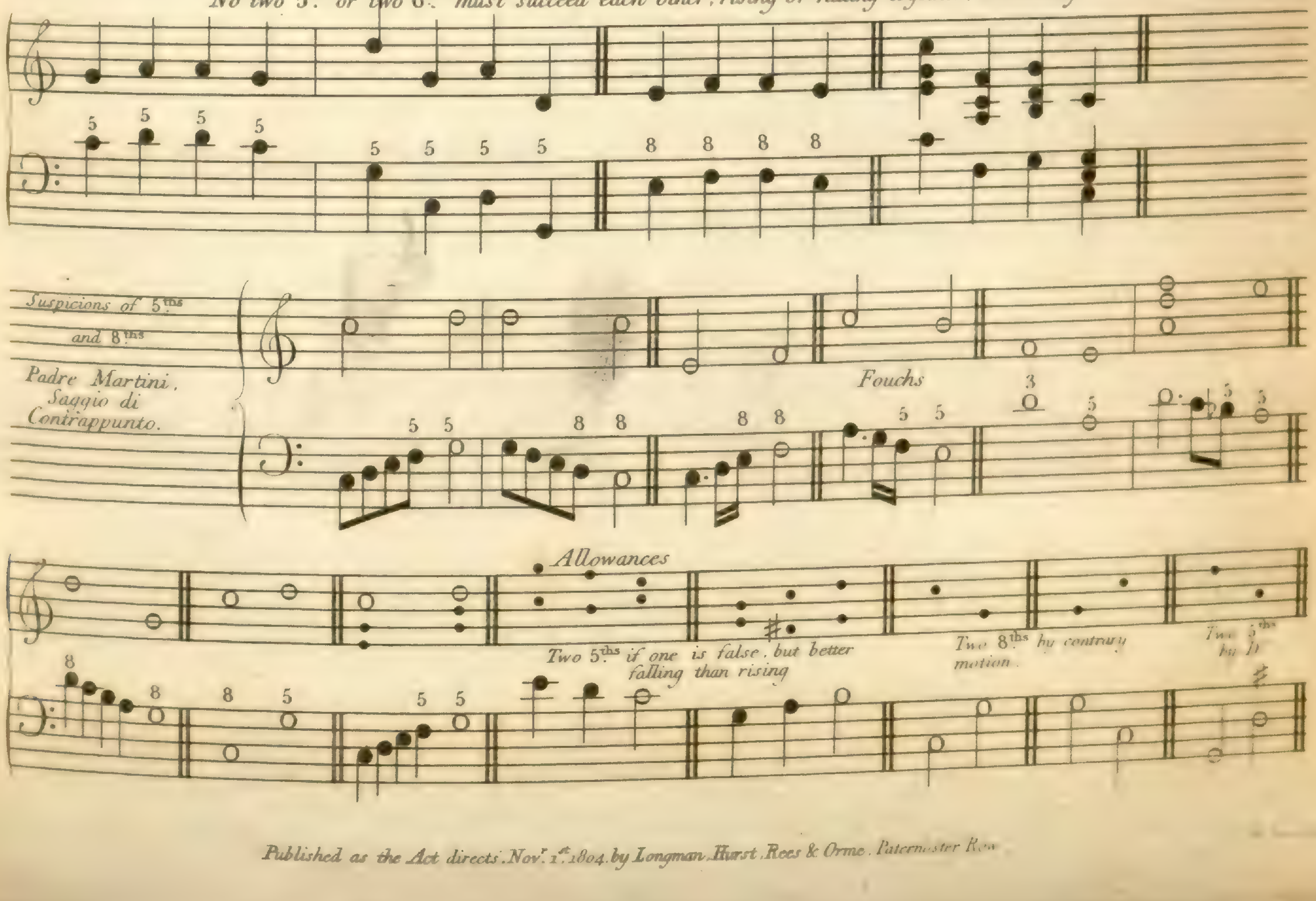
THOROUGH BASE.



DISSALLOWANCES IN THOROUGH BASE.

No two 5ths or two 8ths must succeed each other, rising or falling together, diatonically.



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THOROUGH BASE.

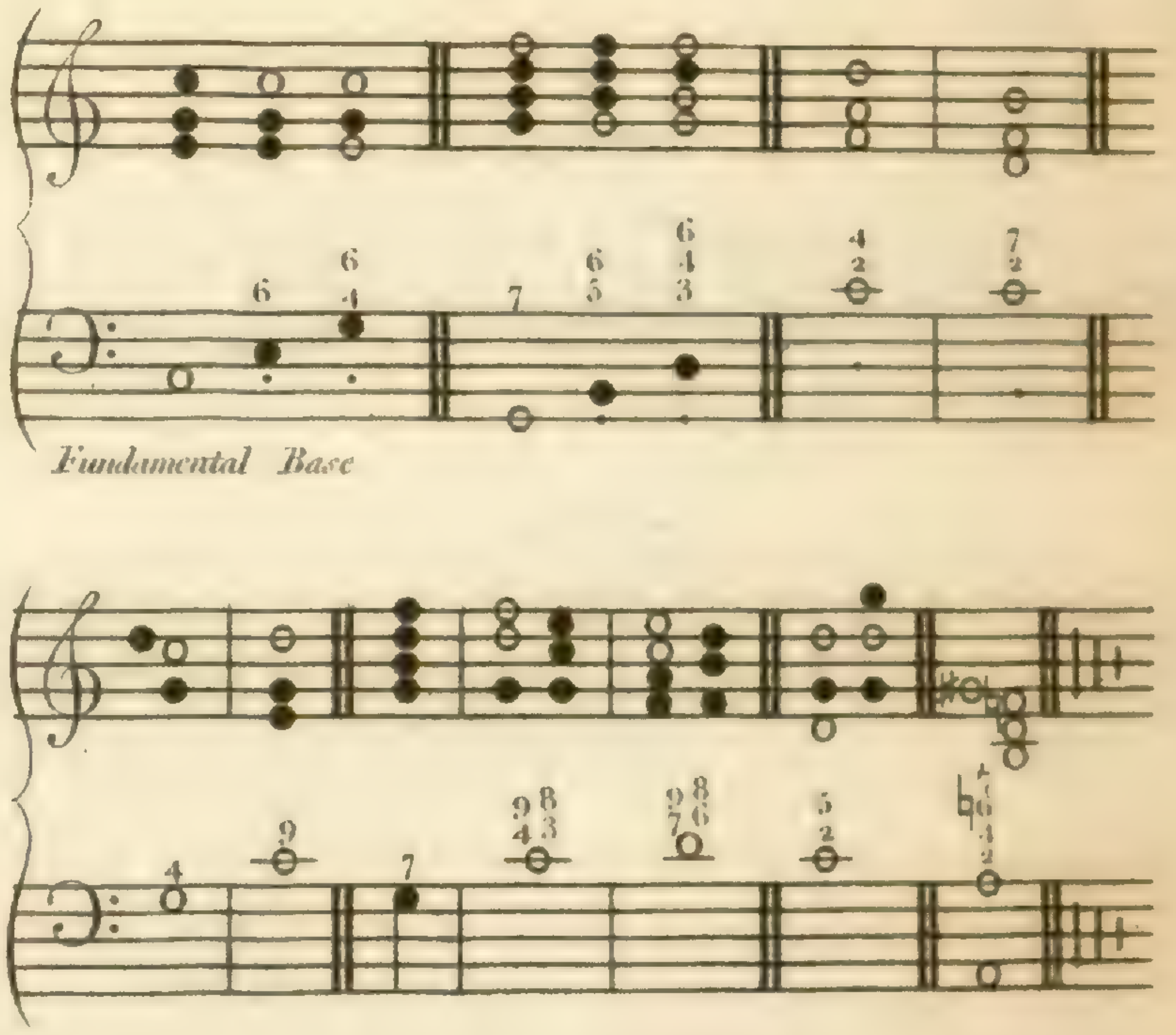
CARDS.

The 3d. 5th & 8th. singly or together imply the COMMON CHORD.

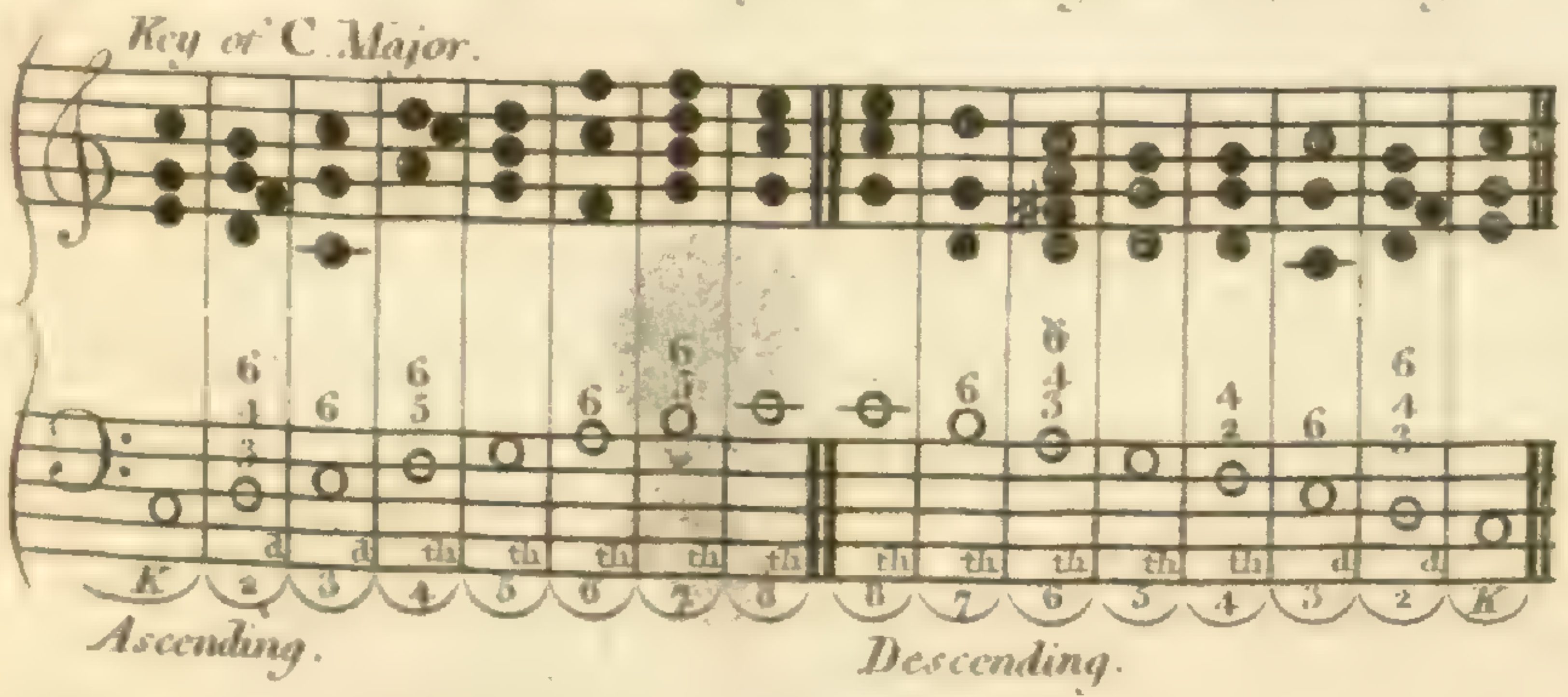
The Chord of the				
6th	8 6			is common Chord to the 3d. below the Base.
6 4				Ditto, to the 5th below.
7	7 3	7 5		is added to the Common Chord.
6 5		6̸		Chord of the 7th. to the 3d. below the Base.
6 4 3	4 3	6̸		Ditto to the 5th. below.
4 2	2	4+	6 4 2	Common Chord to the Note above the Base.
2 7	7̸	7 4	7 4 2	Ditto to the Note below.
4		5 4		taken instead of the 3d.
9		9 3	9 5	instead of the 8th.
9 4		9 5 4		are Sounds of the preceding Chord and always in the Hand.
9 7				Ditto Accompanied by the 5/3
5 2				Accompanied by the Octave of the 2d. or of the 5th.
♮6 4 2				a new combination.

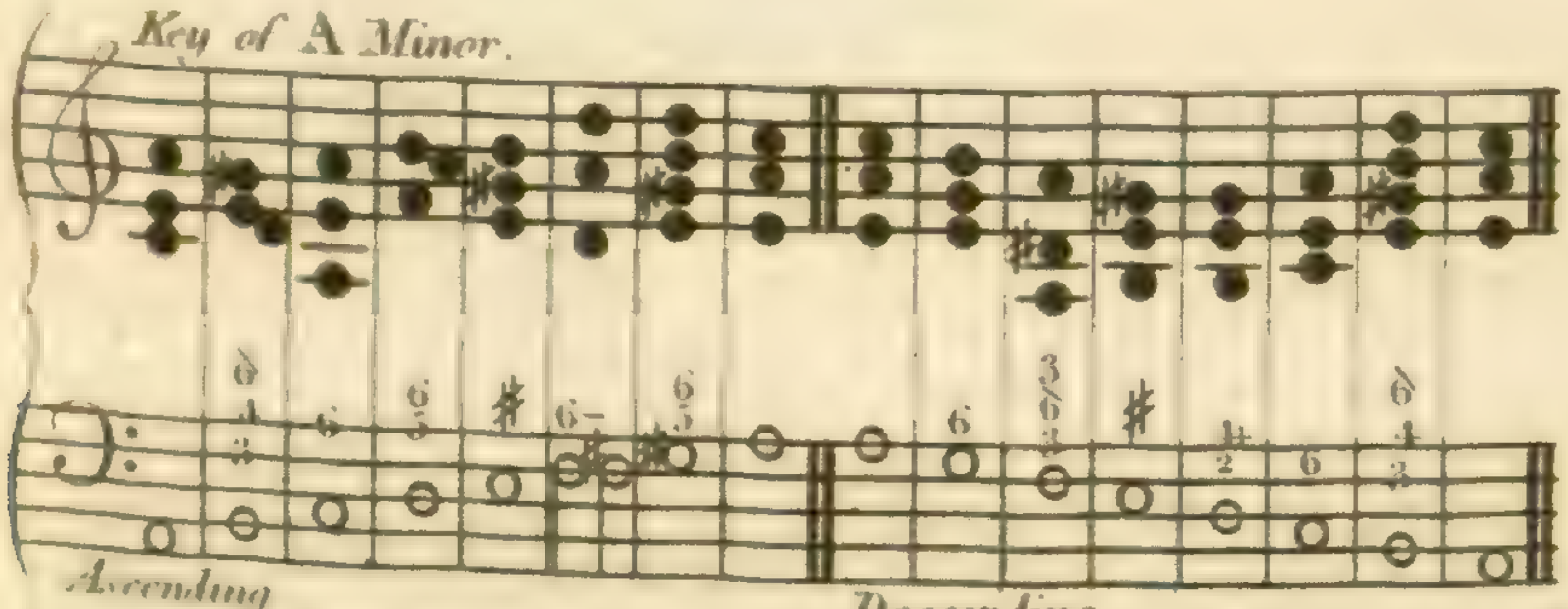
In general the Use of Figures in Accompaniment, is only to express such Sounds as differ from the COMMON CHORD.

Example in Notes.

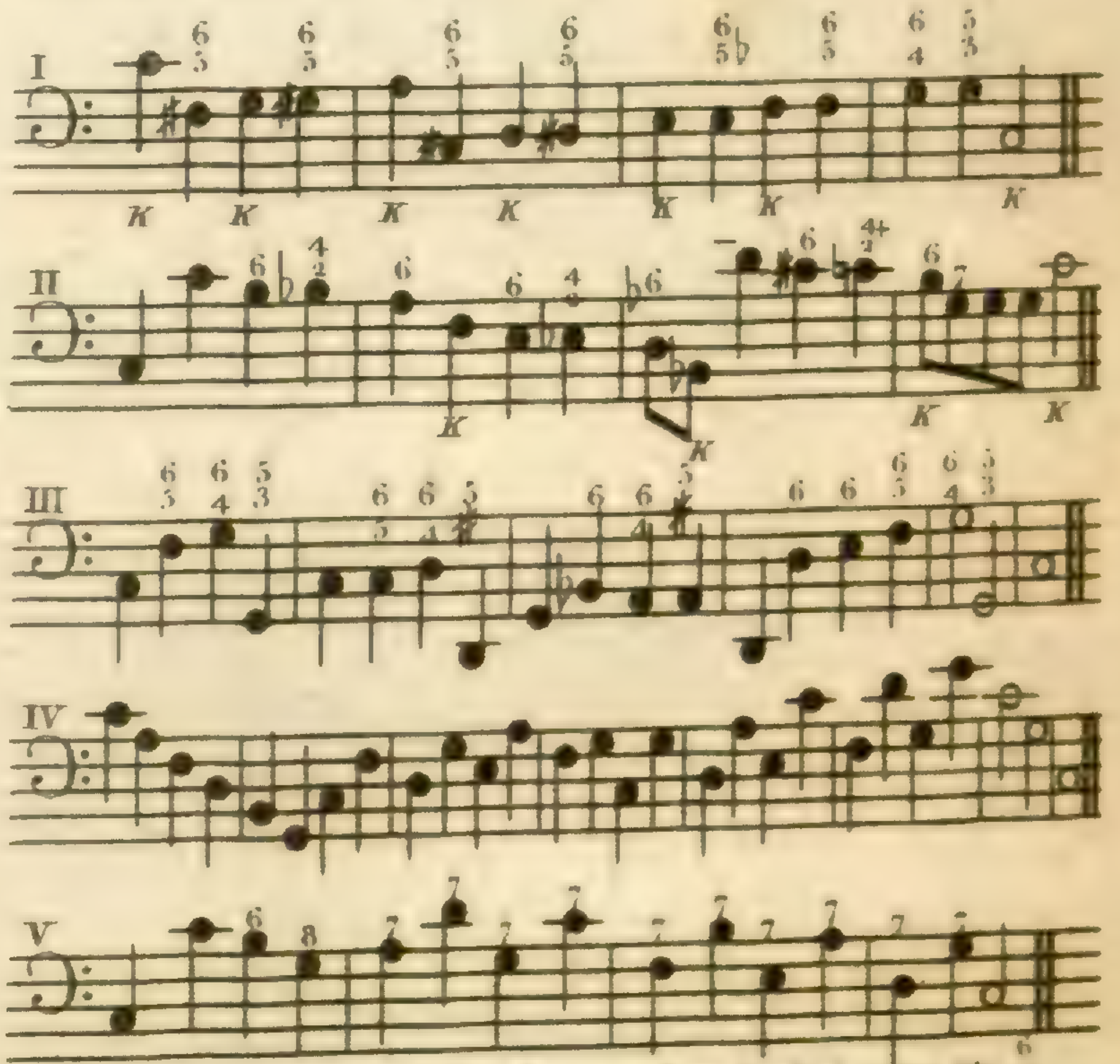


La Regle de l'Octave, or a rule for accompanying each sound of the Musical Scale, without figures, ascending and descending.

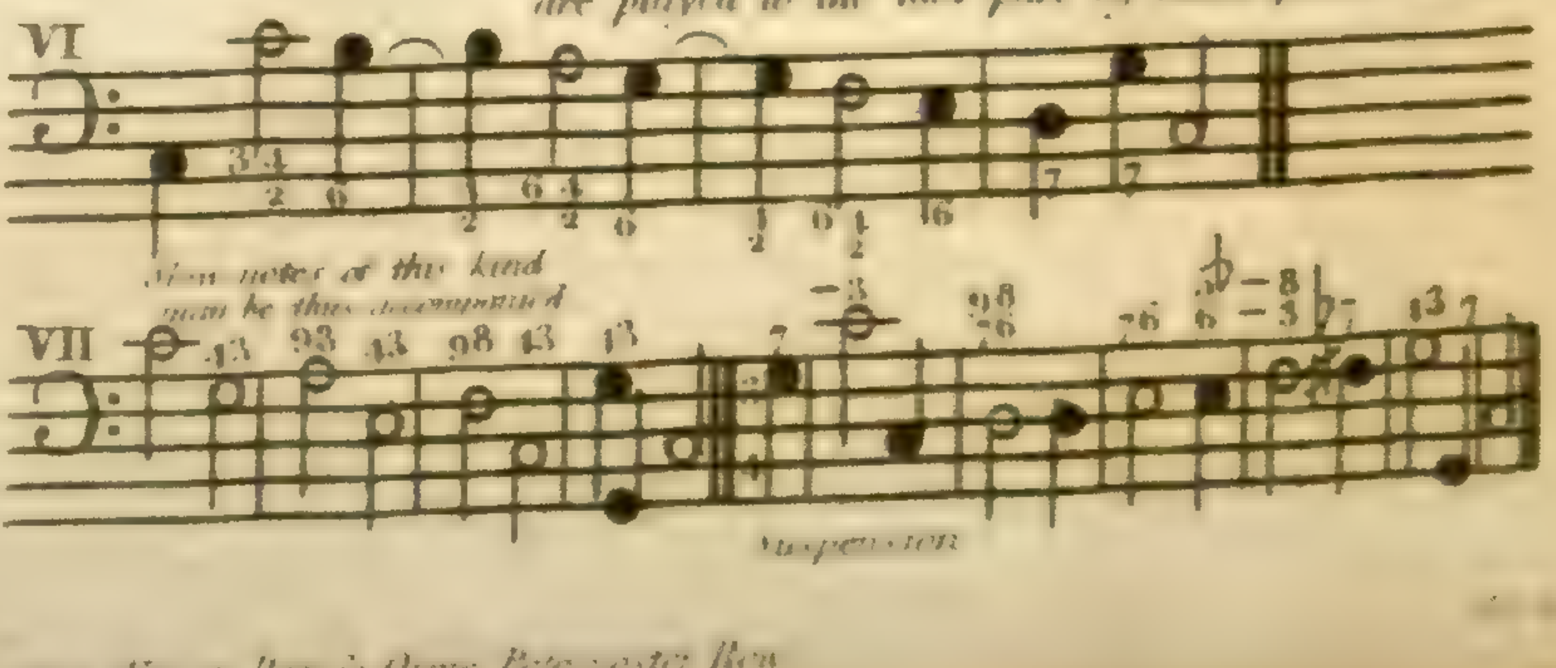




1. An Accidental ♯ note in the base is accompanied by the 6/5 & changes the Key, generally, to the half-note above such sharp.
2. An Accidental flat note is generally accompanied by a 4/2 & changes the Key to the 4th. below such flat.
3. To the 5th. of a Key if repeated at a close, two Chords are generally play'd 6/4 5/3 & sometimes the 7th. with the Common Chord.
4. When the base moves per saltum, a 3d. 4th. 5th. or 6th. common Chords will do.
5. When the base rises a 4th. & falls a 5th. alternately, & the contrary, each note may be accompanied by the chord of the 7th.



In Syncopated or binding notes the 6/4/2 are played to the last part by Anticipation.



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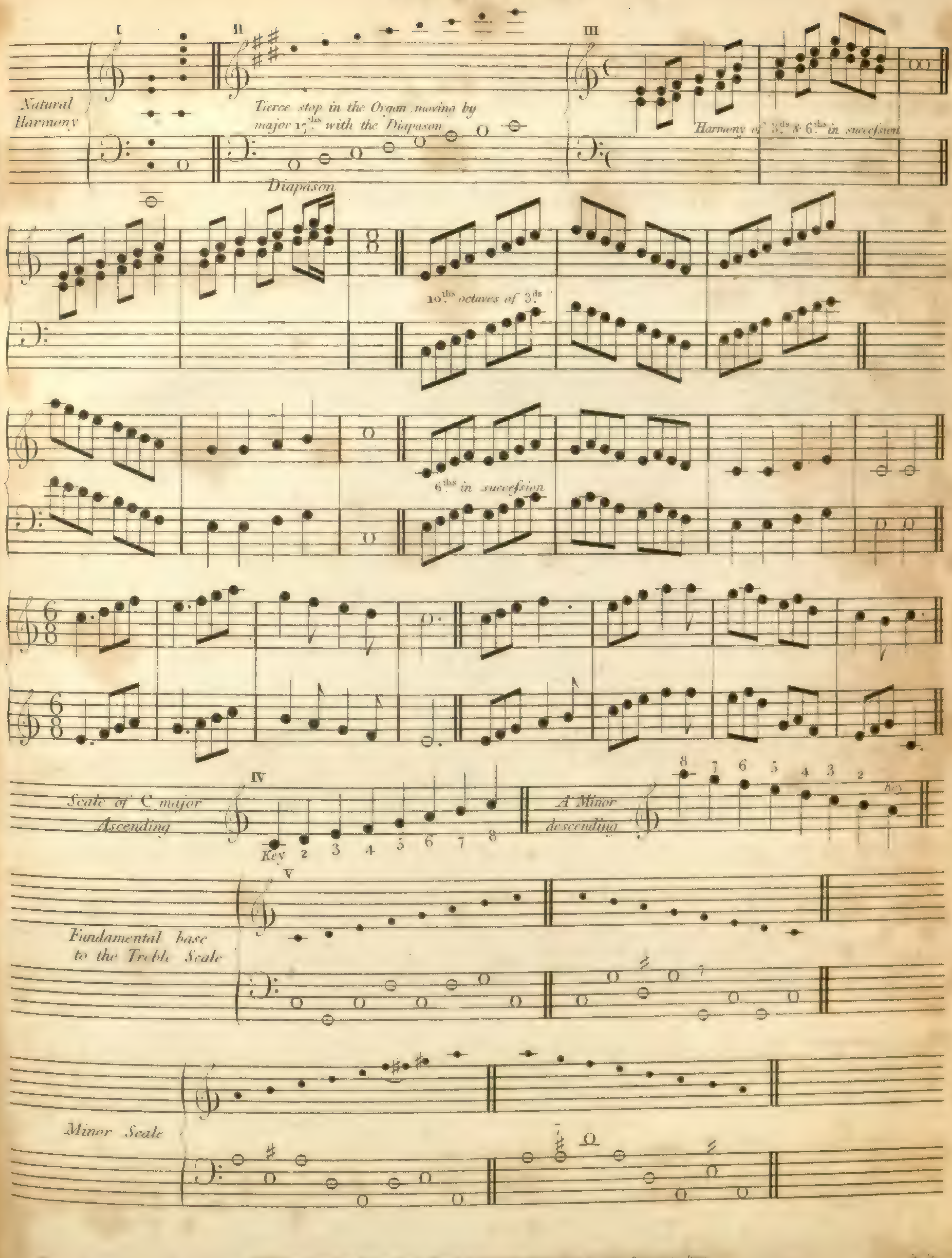
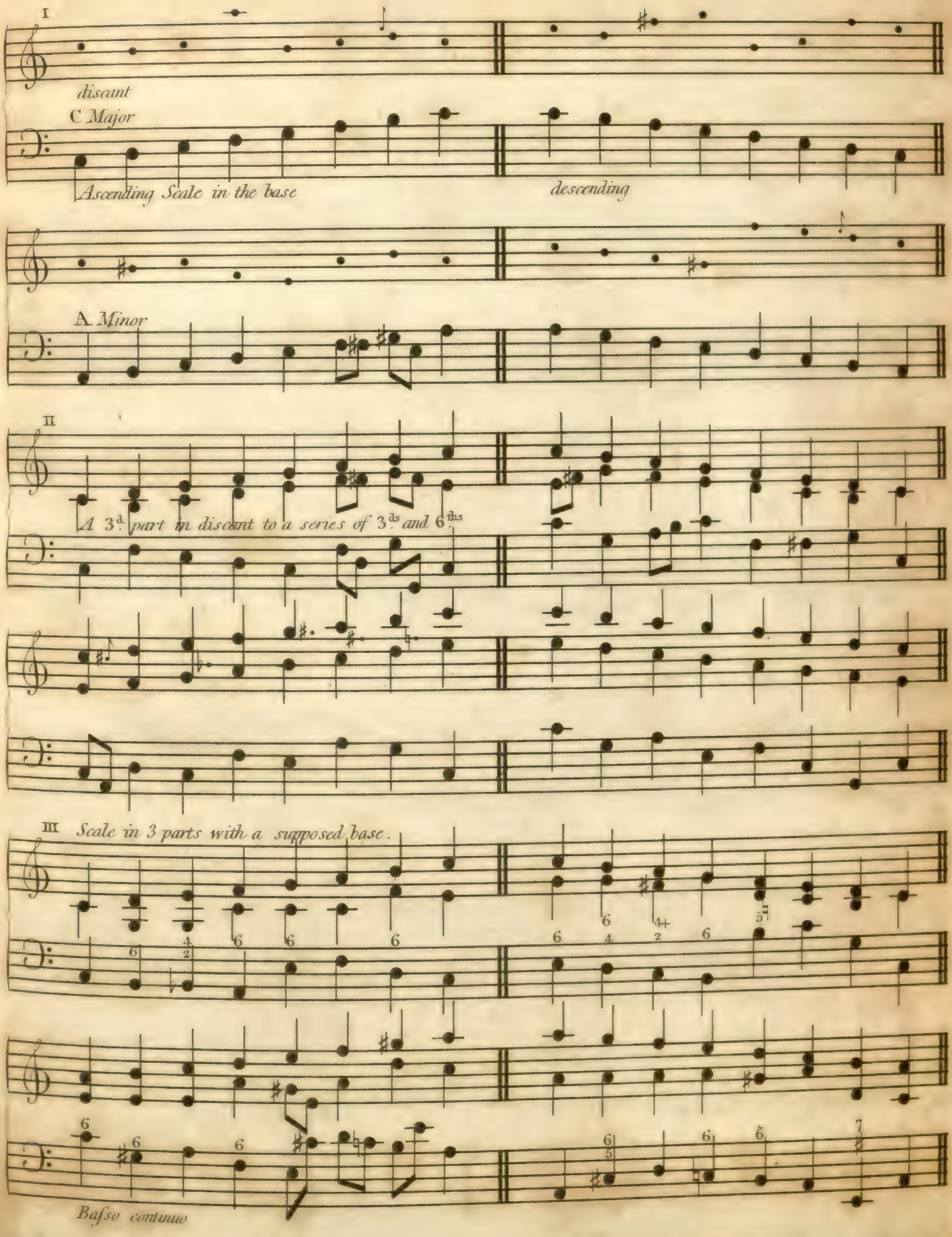
COUNTERPOINT.



Published as the Act directs June 1st 1805, by Longman Hurst Rees & Orme Paternoster Row.

MUSIC.

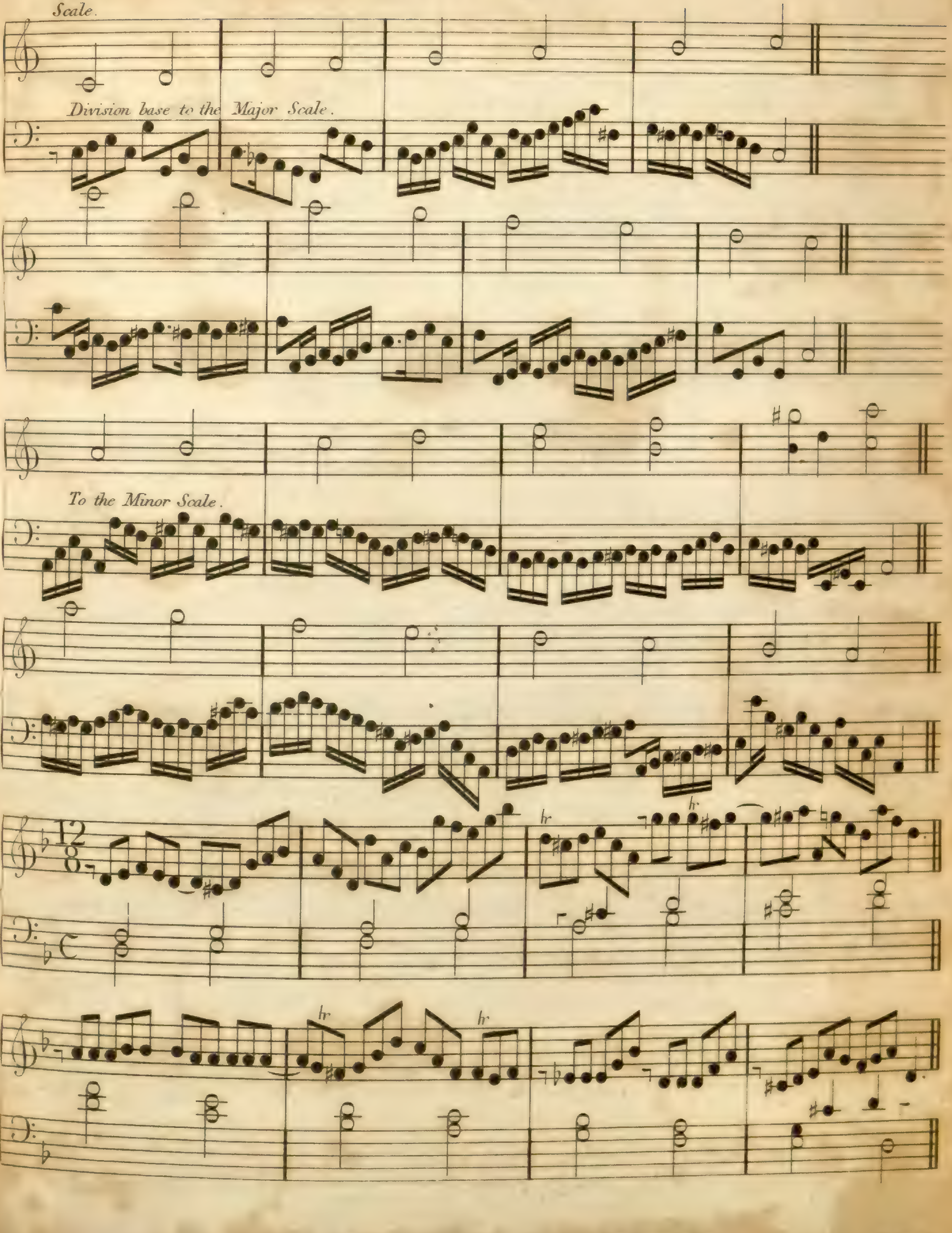
COUNTERPOINT.



Published as the Act directs, Sept. 1st 1805 by Longman, Hurst, Rees & Orme, Paternoster Row

Jn. Lee sculp.

COUNTERPOINT.



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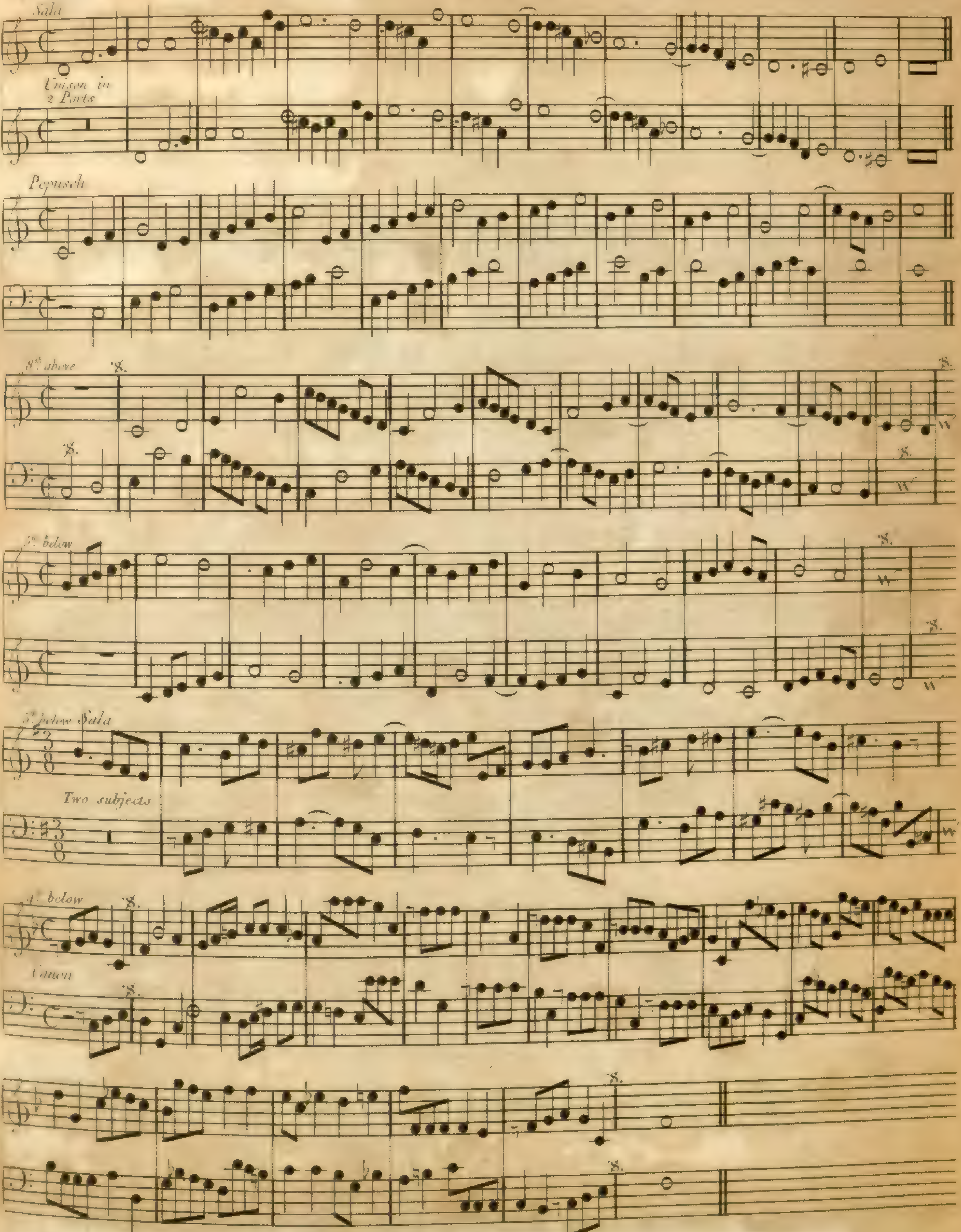
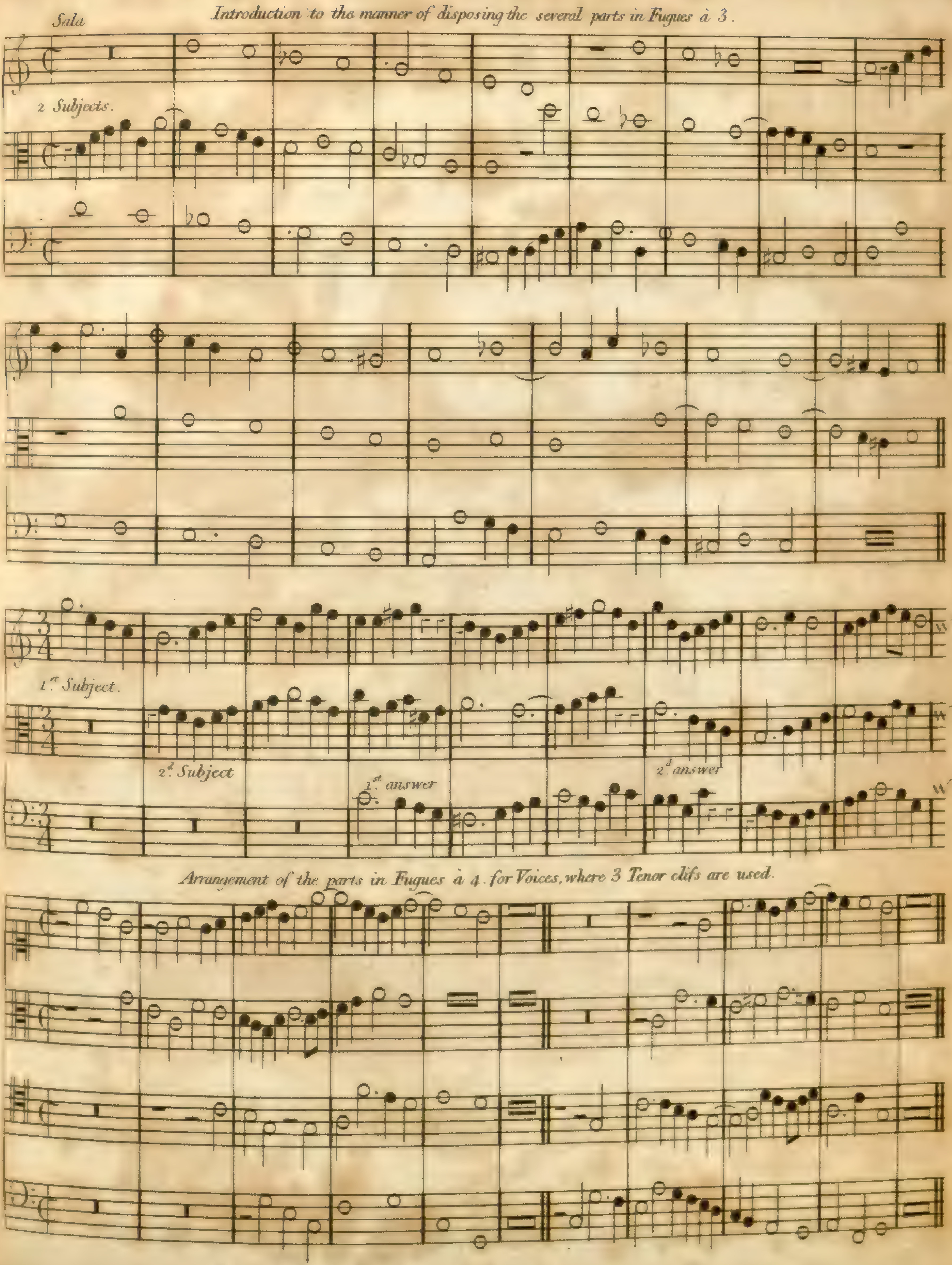
Answers to regular Fugues must be in the Unison, the 8th 5th or 4th in order that they may proceed in the same intervals as the subject.



Published as the Act directs May 1st 1806 by Longman, Hurst, Rees & Orme Paternoster Row

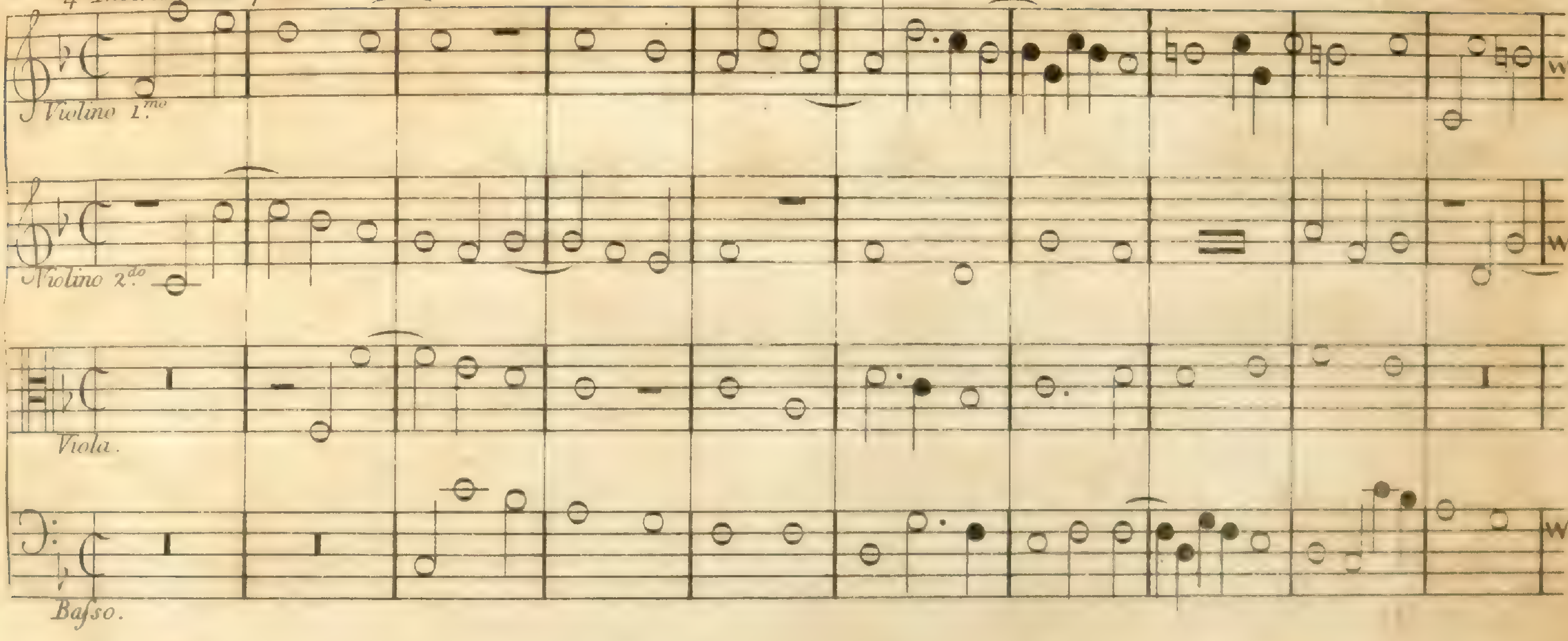
Introduction to the manner of disposing the several parts in Fugues à 3.



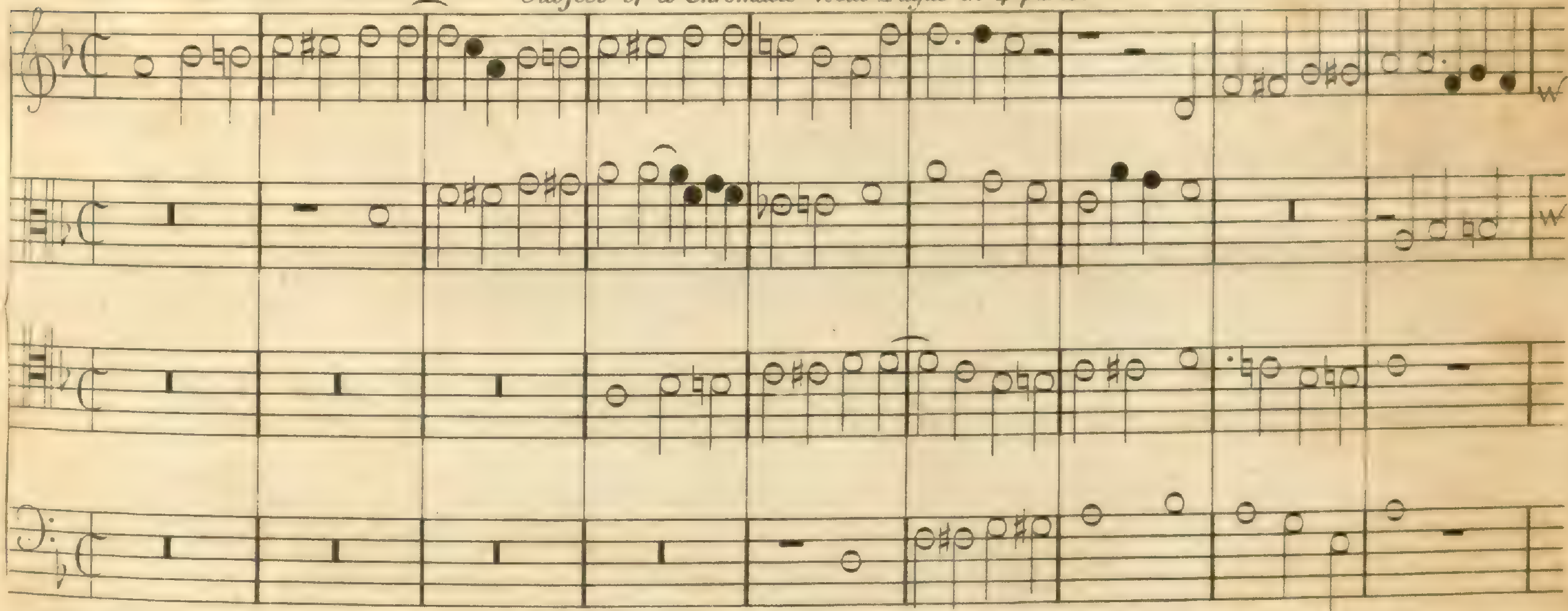
Published as the Act directs, June 2d 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

COUNTERPOINT.

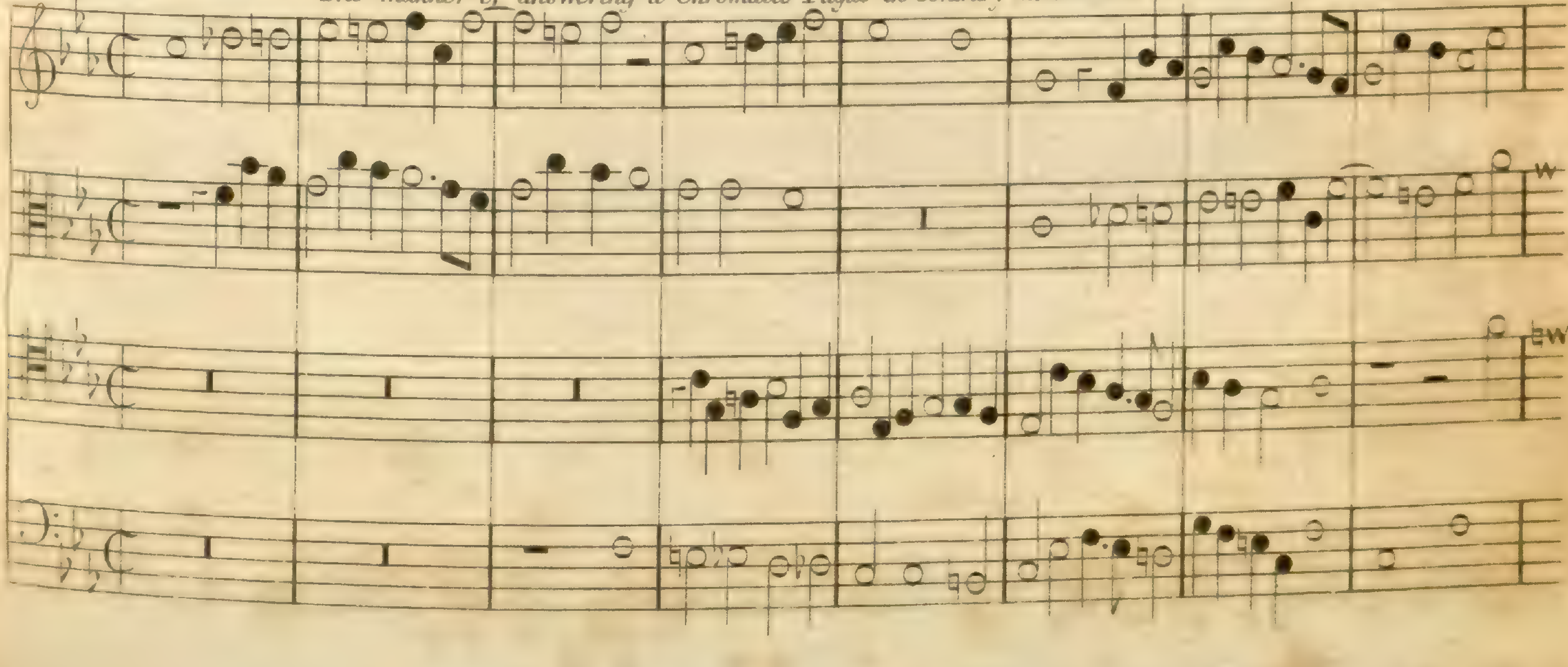
4 Instrumental parts.



Subject of a Chromatic vocal Fugue in 4 parts.



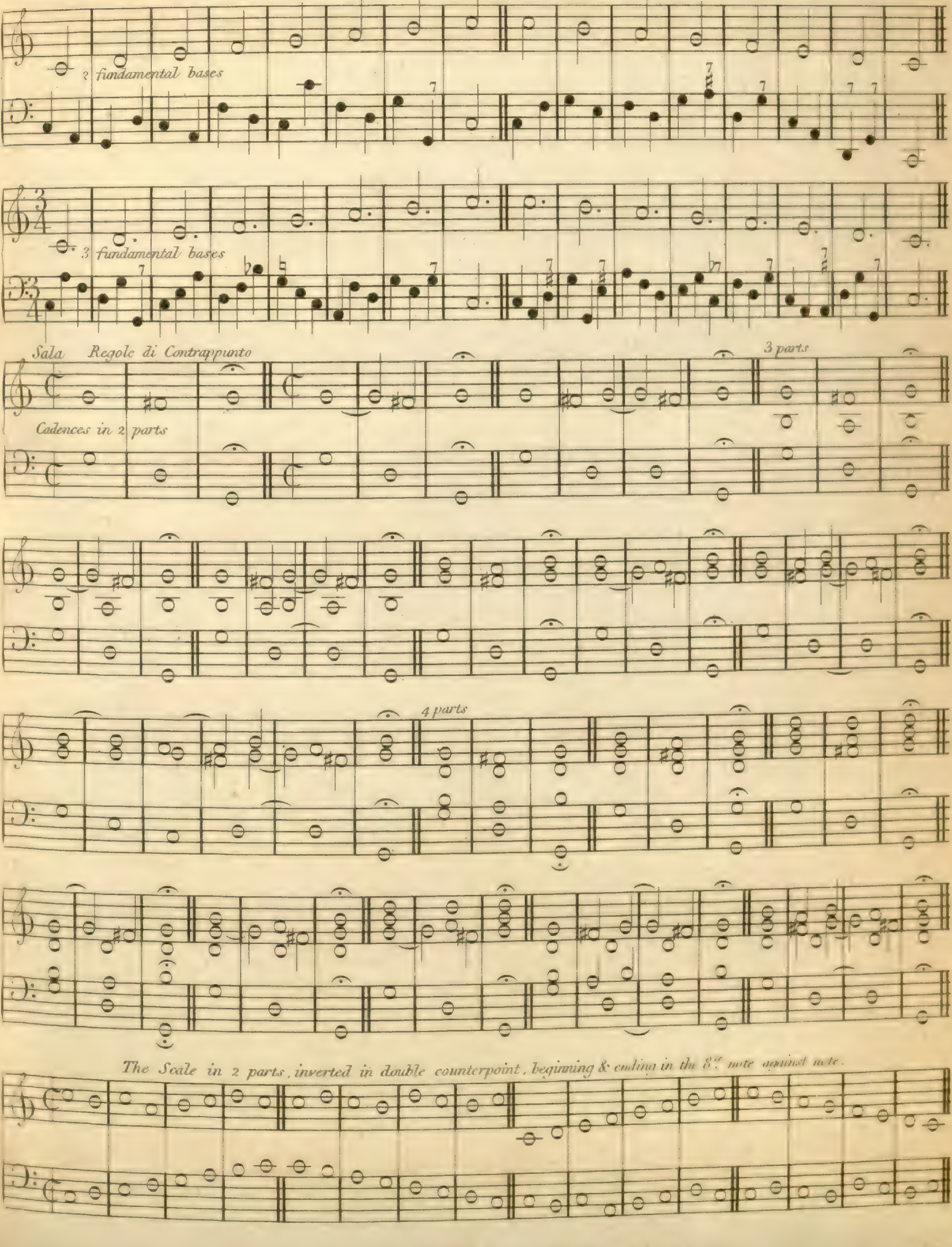
The manner of answering a Chromatic Fugue in contrary motion and direct.



Published as the Act directs, June 2d 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

MUSIC.

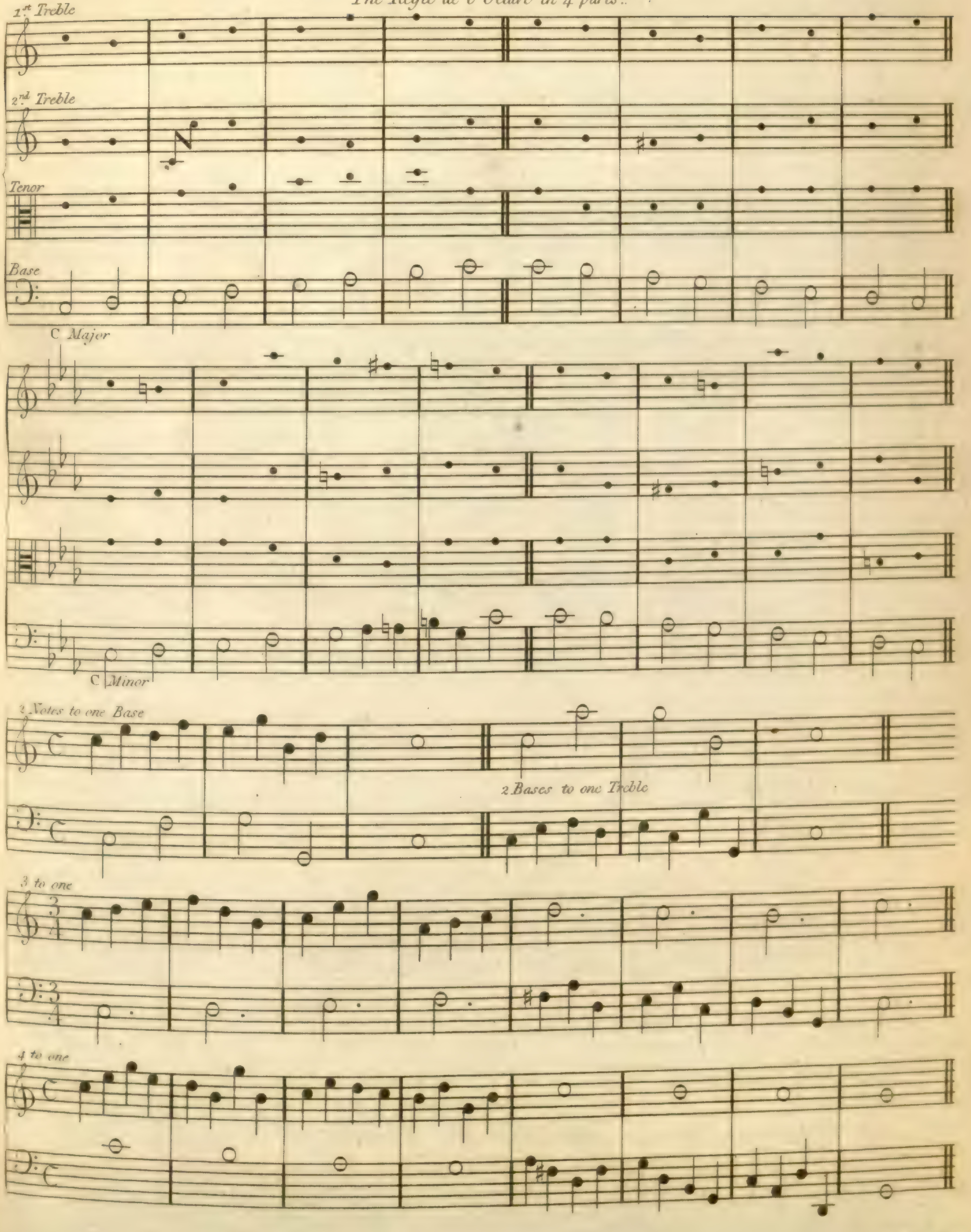
COUNTERPOINT.



Published as the Act directs, July 2nd 1806 by Longman Hurst Rees & Orme, Paternoster Row

COUNTERPOINT.

The Regle de l'Octave in 4 parts..



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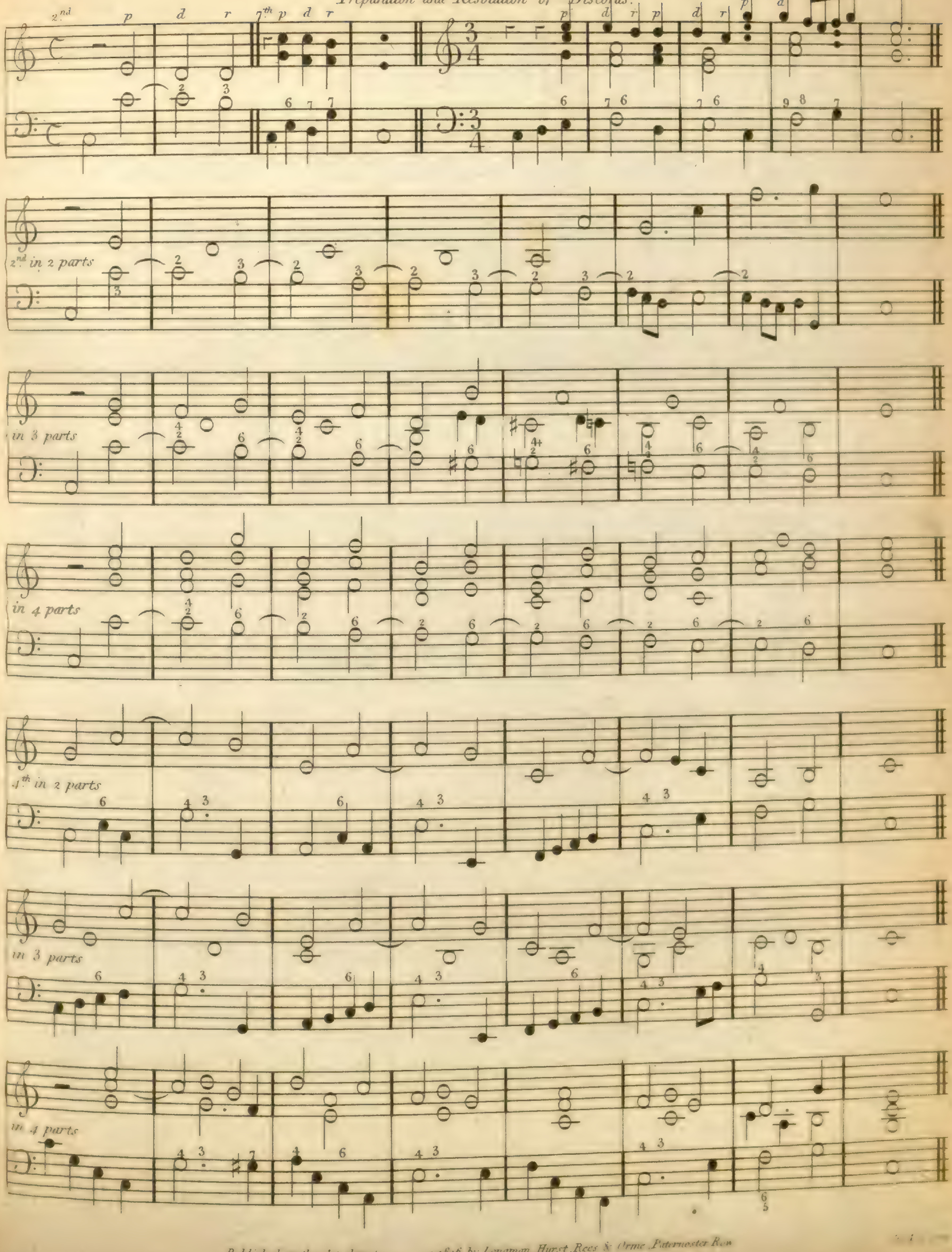
MUSIC.

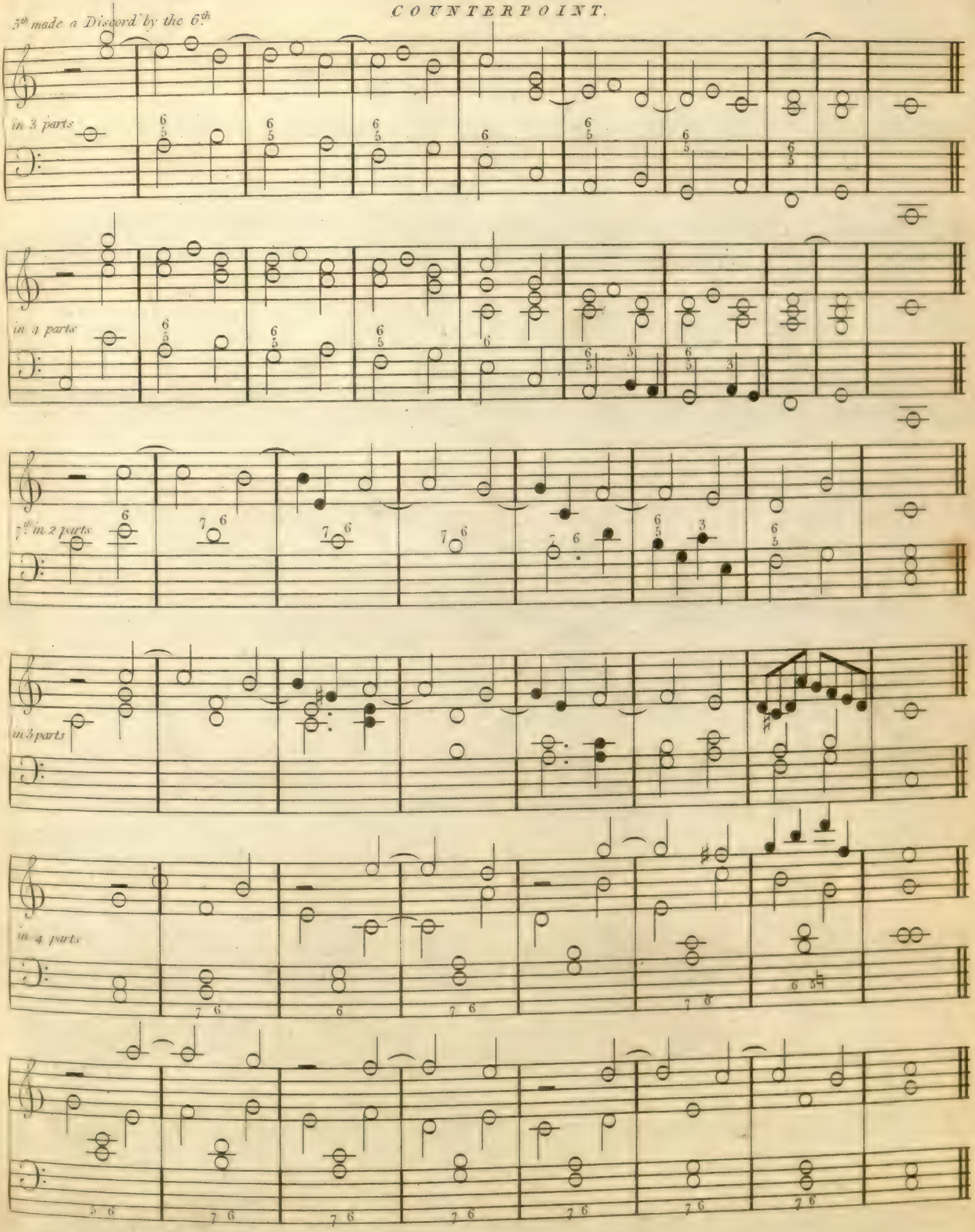
COUNTERPOINT.

Preparation and Resolution of Discords.



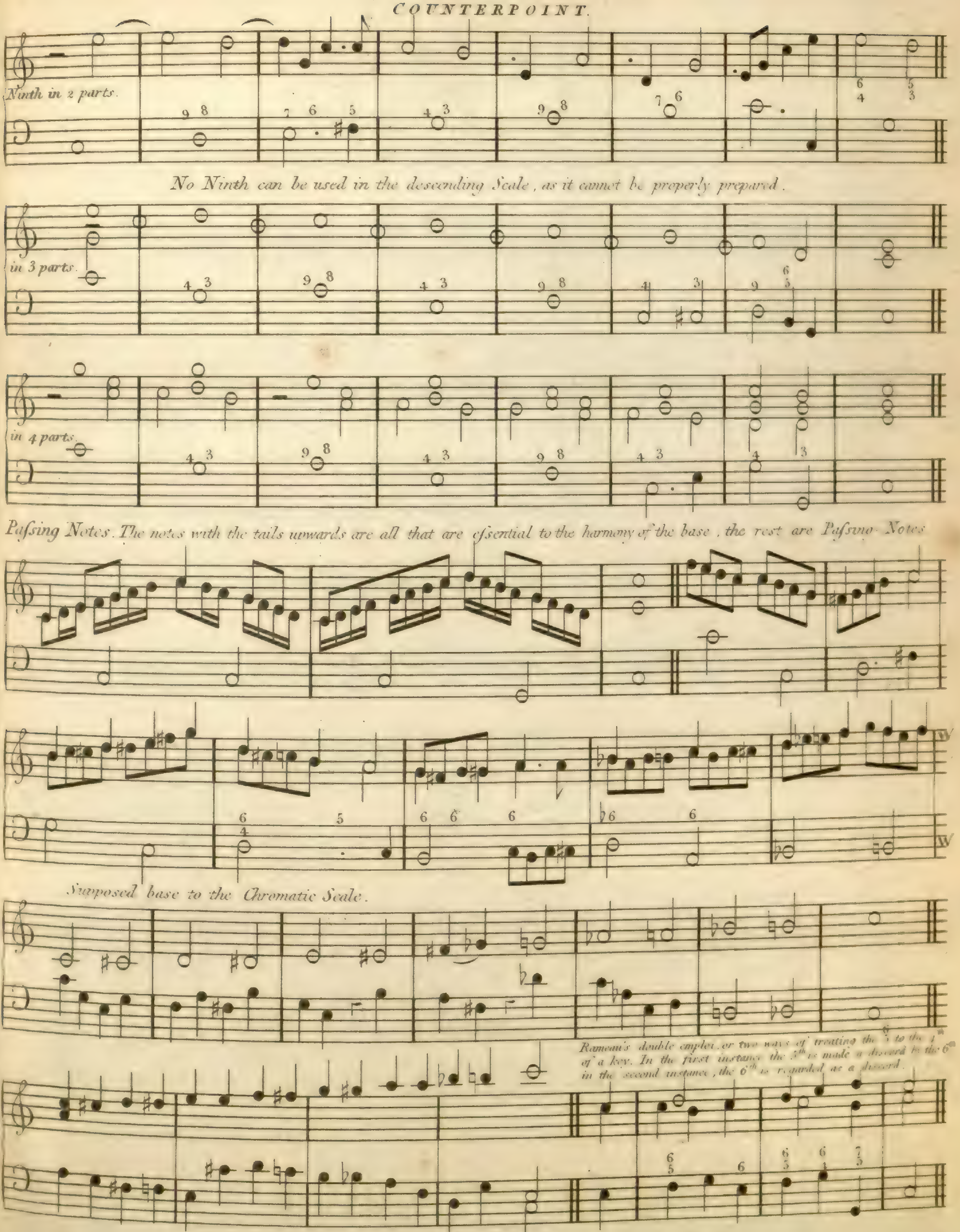
Published as the Act directs, 1806, *by Longman Hurst Rees & Orme Paternoster Row*

COUNTERPOINT.



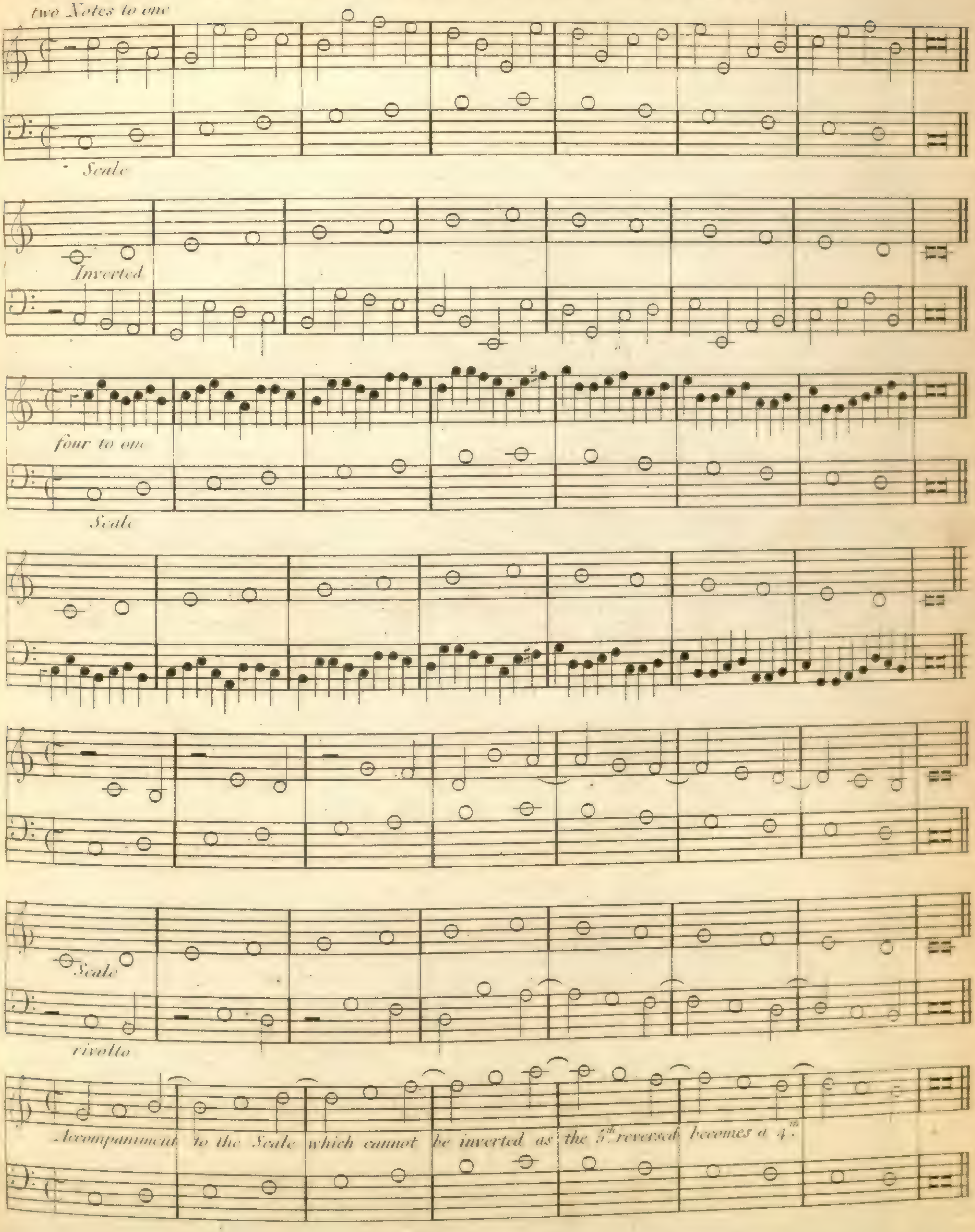
Published as the Act directs, Feb 12th 1813, by Longman, Hurst, Rees & Orme, Paternoster Row.

COUNTERPOINT.



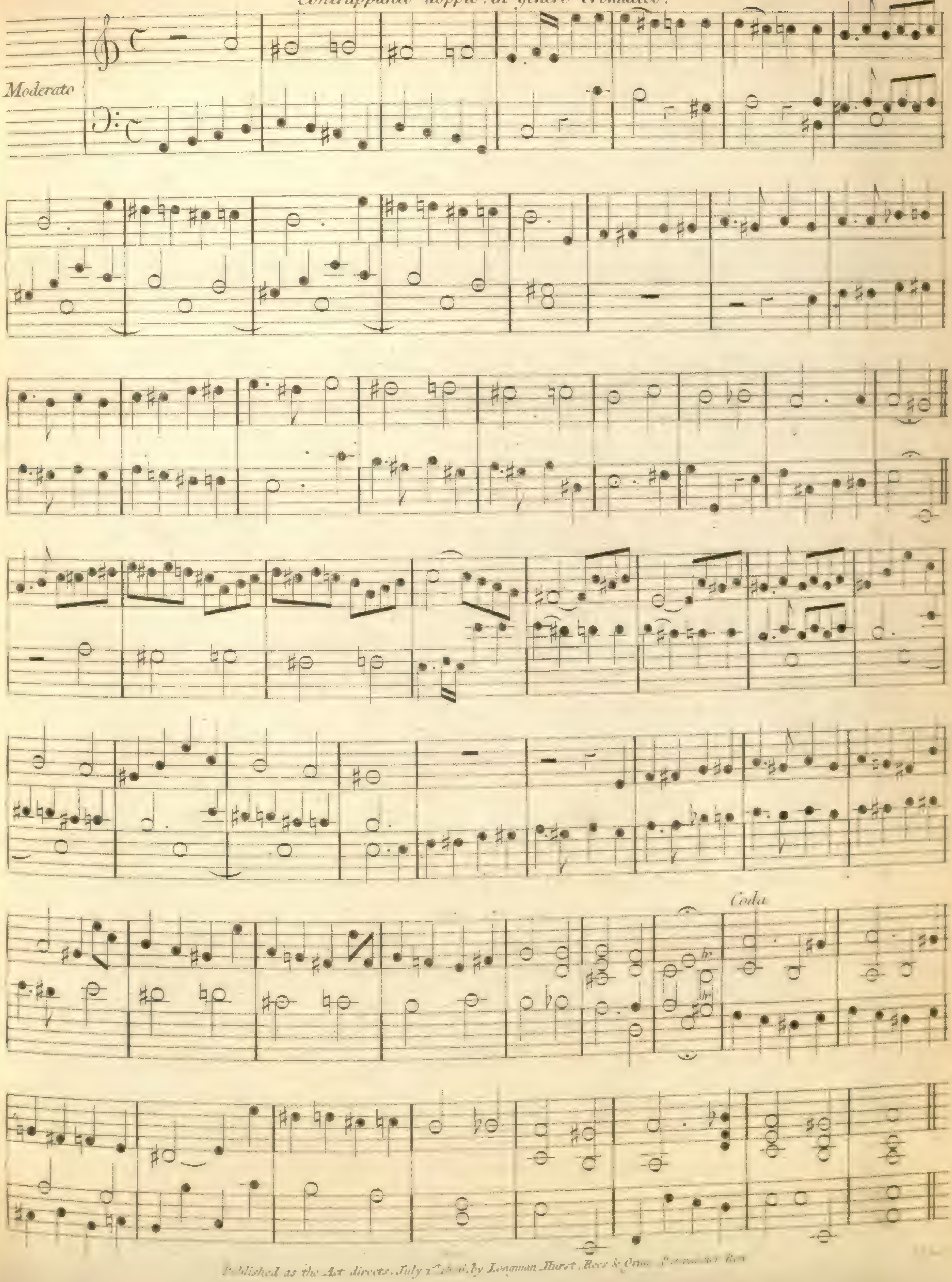
Published as the Act directs, Feb: 12th 1813, by Longman Hurst Rees & Orme, Paternoster Row

DOUBLE COUNTERPOINT IN THE OCTAVE.



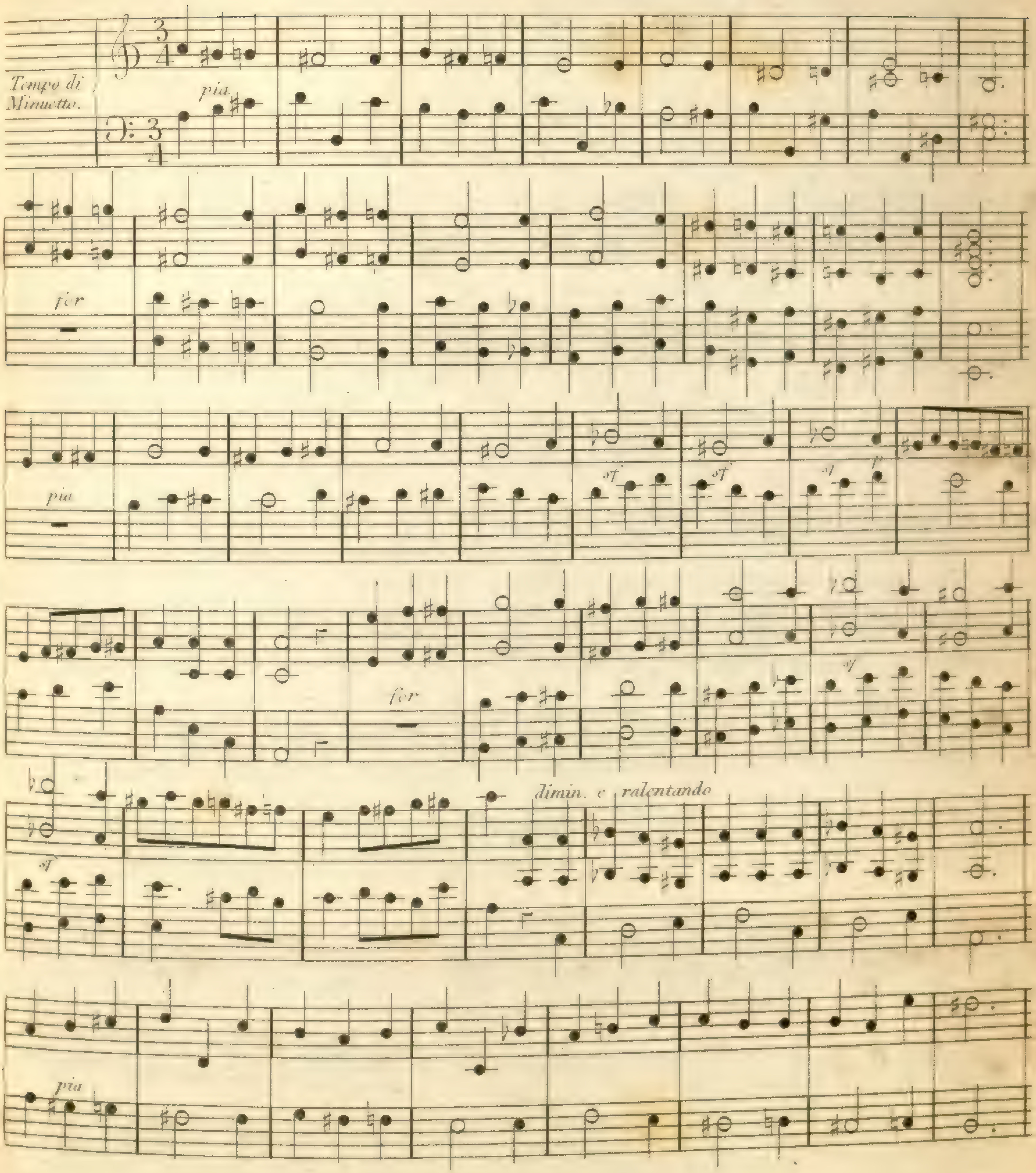
Published as the Act directs by Longman Hurst Rees & Orme Paternoster Row.

Contrappunto doppio, in genere Cromatico.



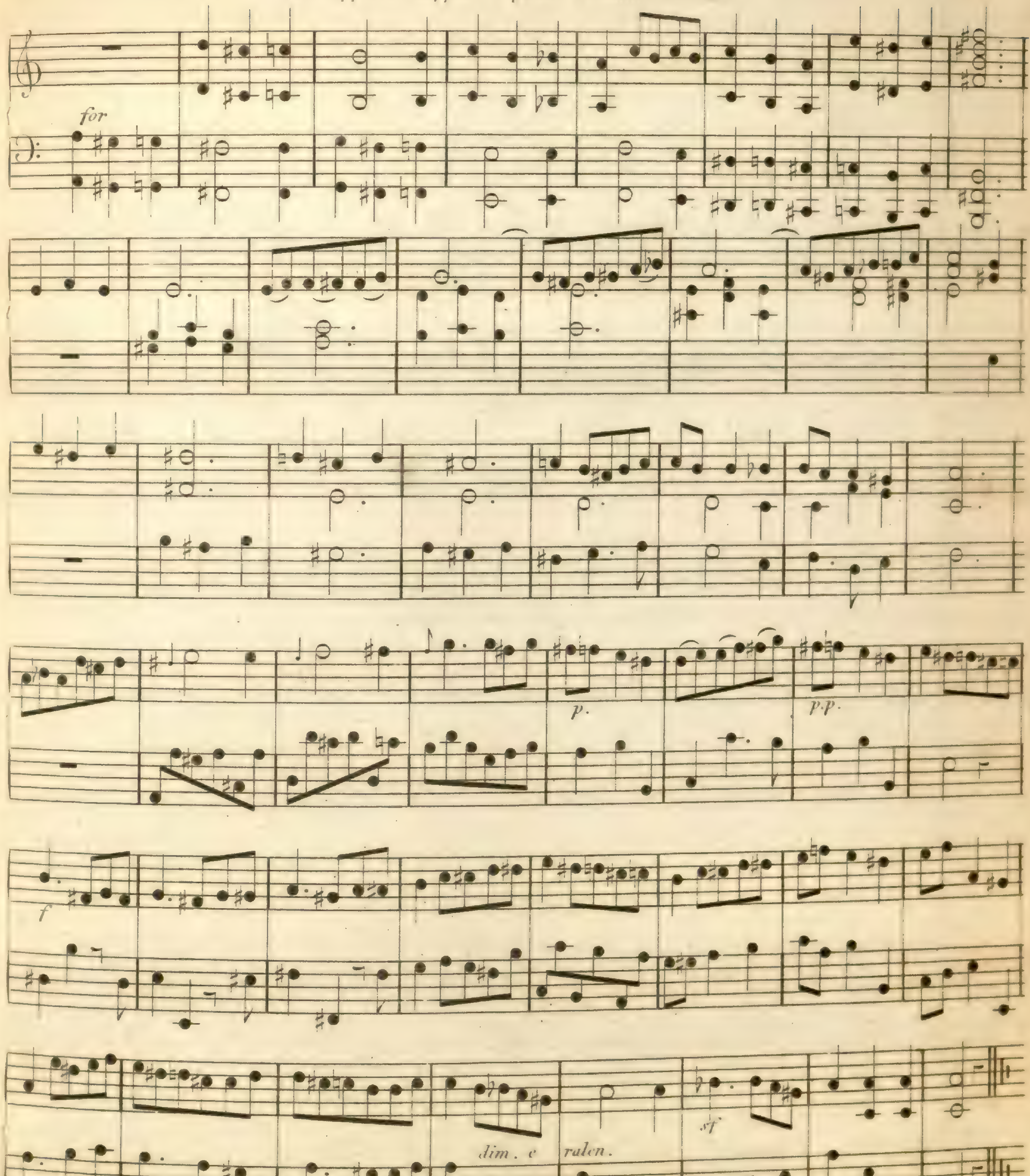
Published as the Act directs, July 1st ... by Longman Hurst, Rees & Orme ...

Contrappunto doppio, in genere Cromatico. *continued.*



Published as the Act directs April 1st 1808, by Longman, Hurst, Rees & Orme, Paternoster Row.

Contrappunto doppio in genere Cromatico, continued.

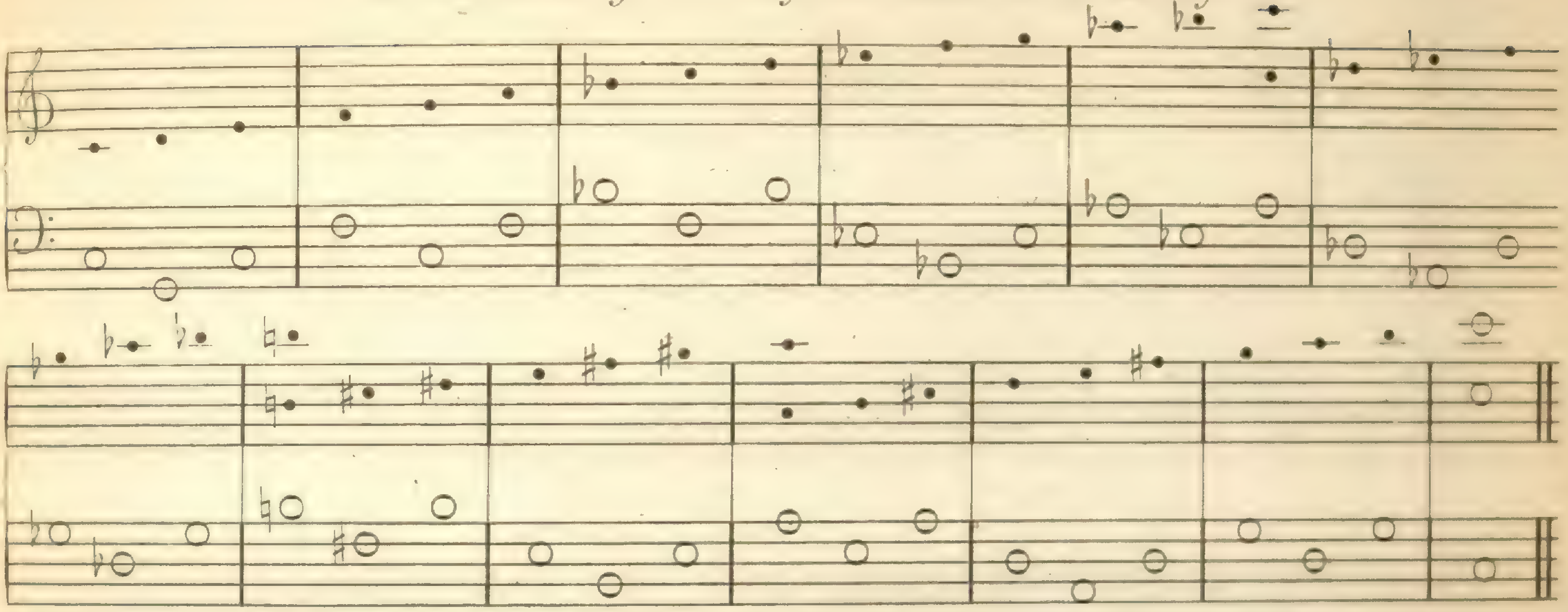


Published as the Act directs, July 1st 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

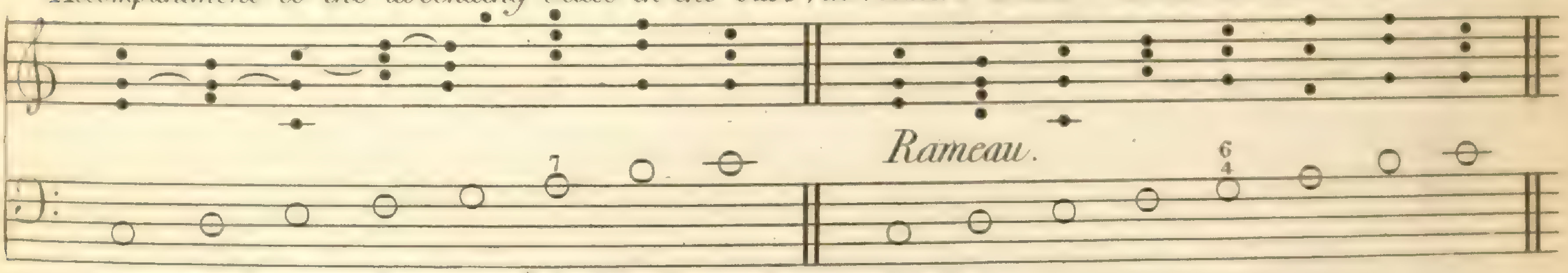
Jno. Lee sculp.

MODULATION.

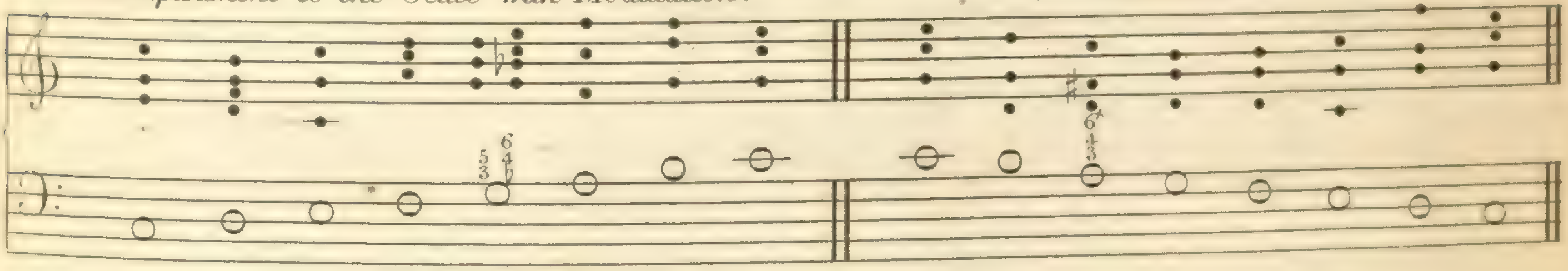
In the ascending Scale only three Notes are in one Key.



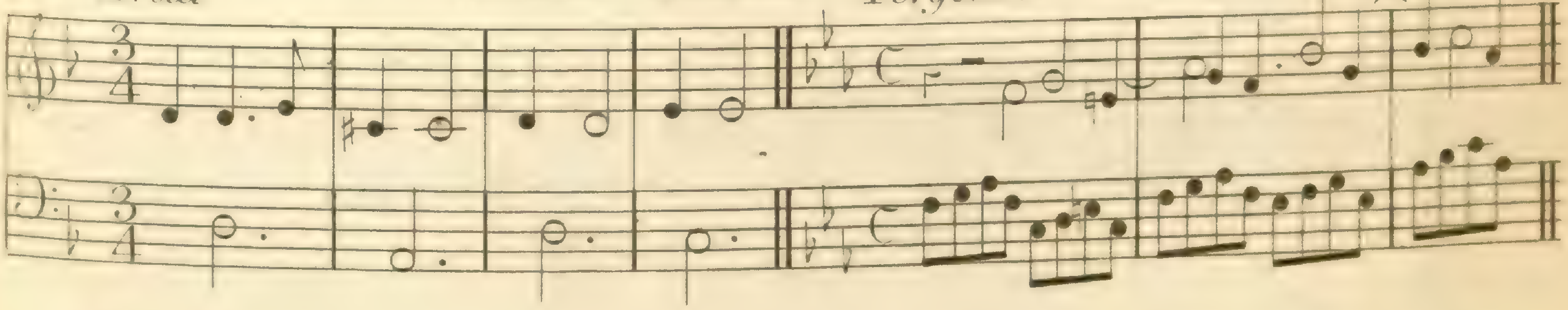
Accompaniment to the ascending Scale in the base, in relative sounds without Modulation.



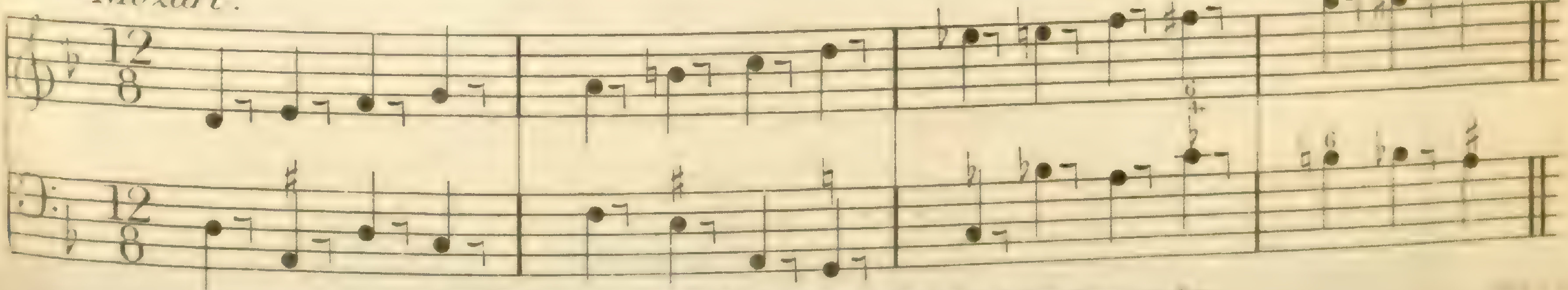
Accompaniment to the Scale with Modulation. *Modulation.*



Corelli *Unrelative Modulation.* *Pergolesi.*

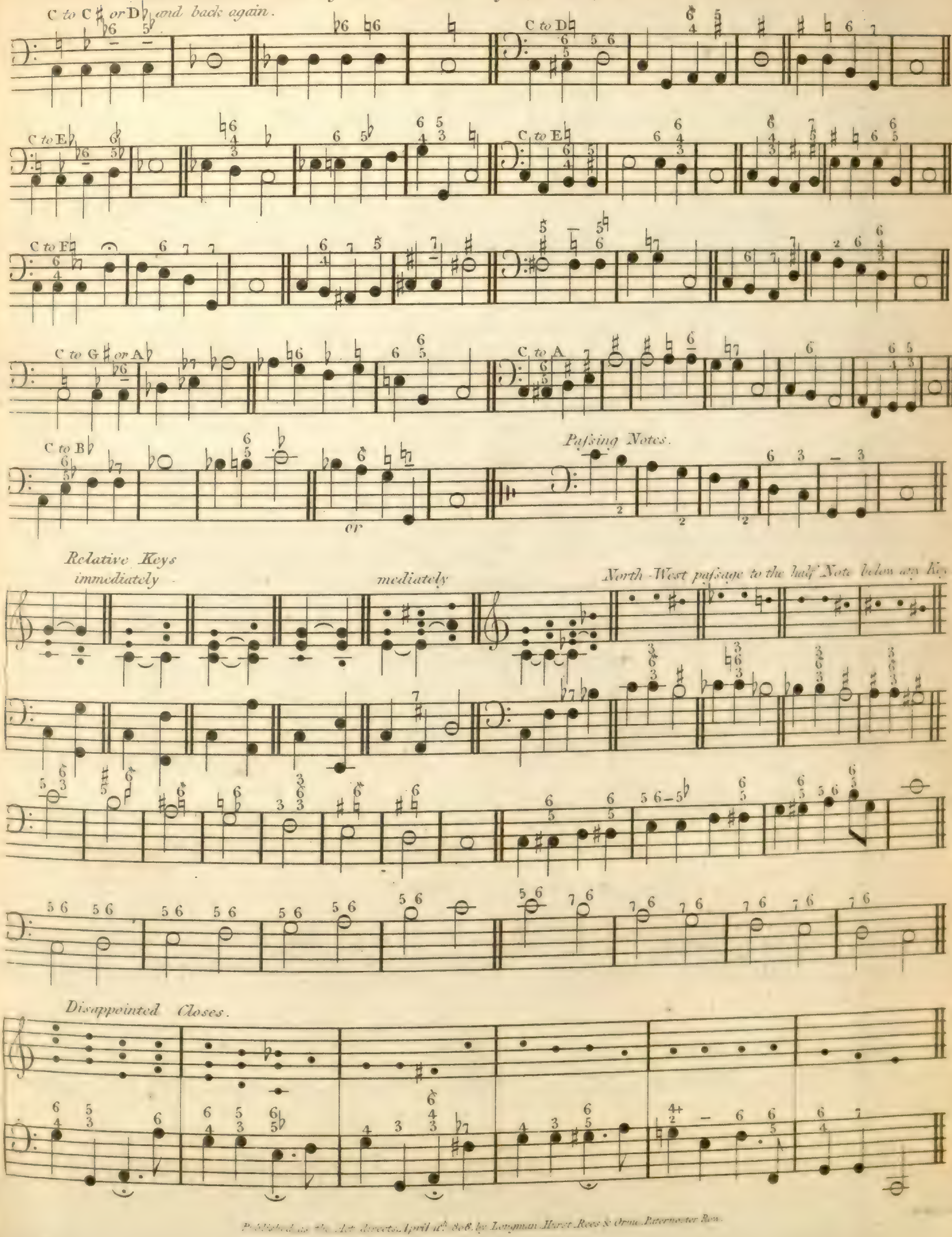


Mozart.



Published as the Act directs, April 1st 1808, by Longman, Hurst, Rees & Orme Paternoster Row.

Modulation from a given Note to every species of Interval in the Octave.



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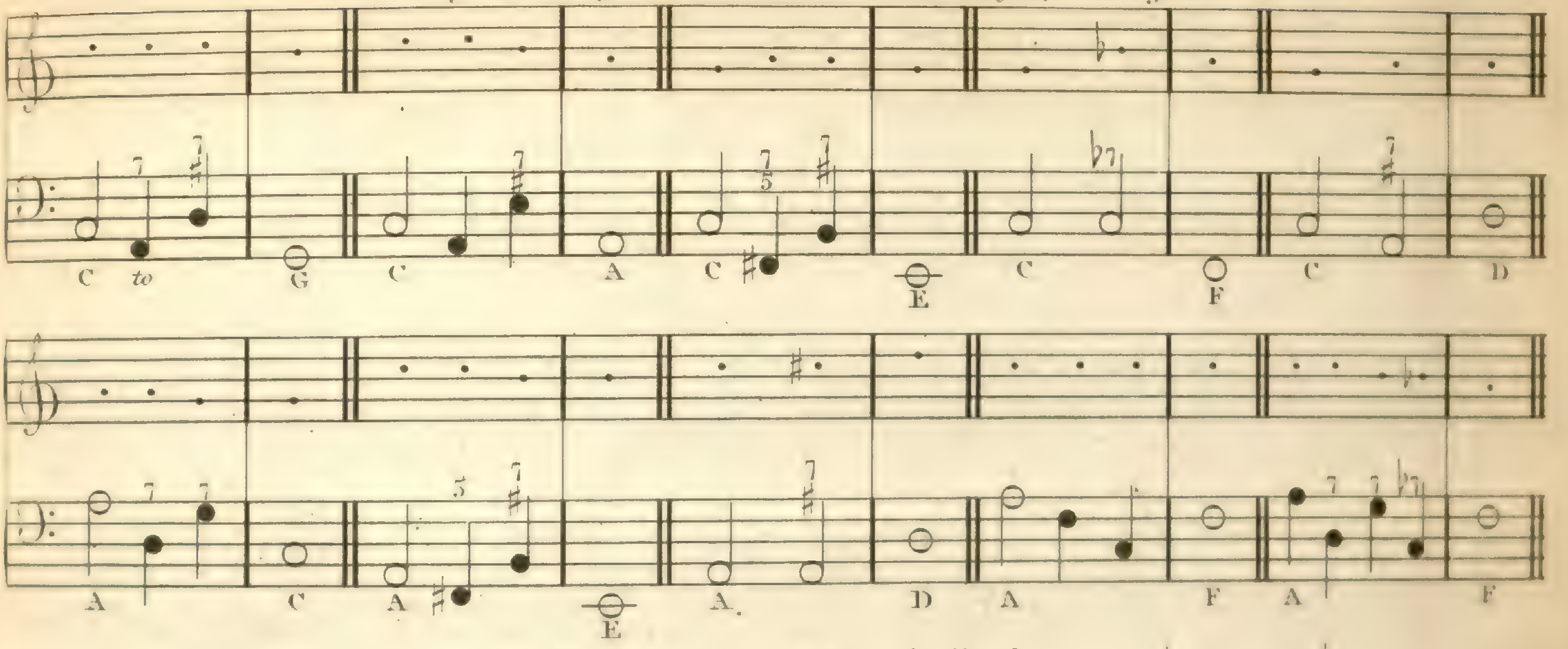
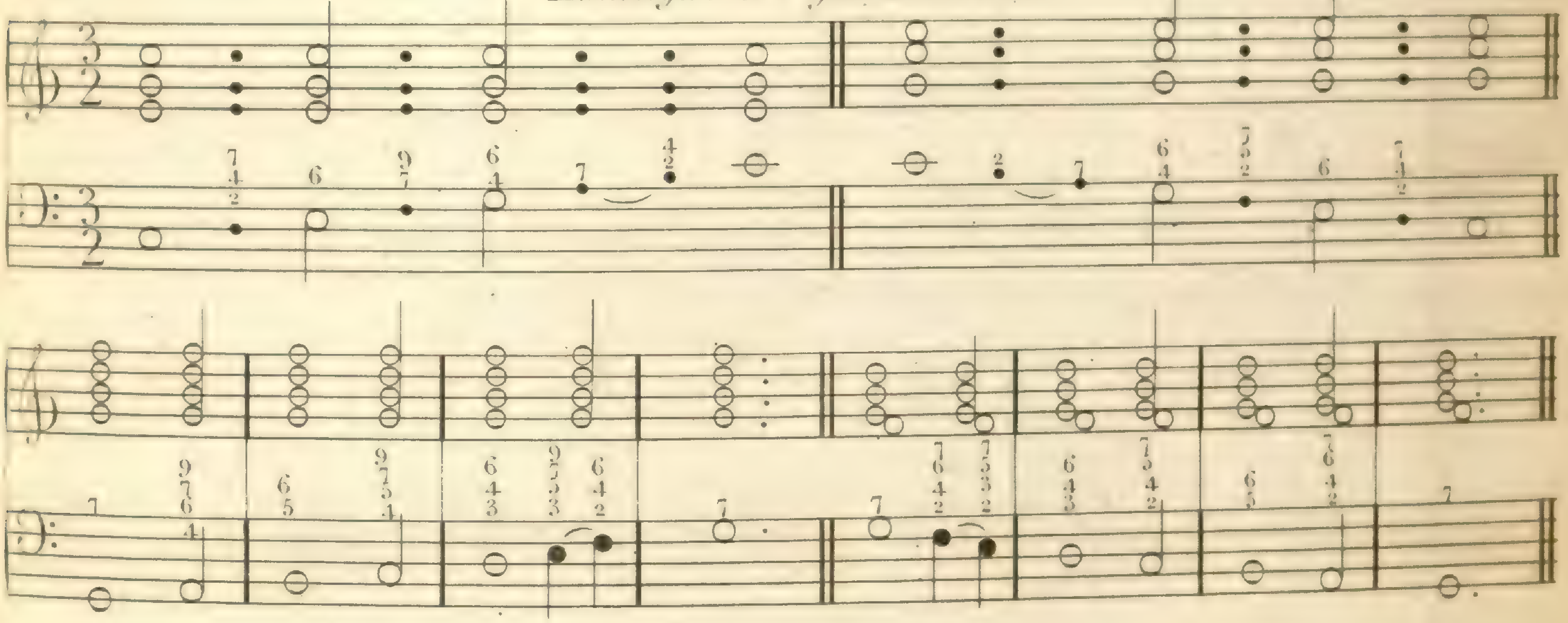
MUSIC.

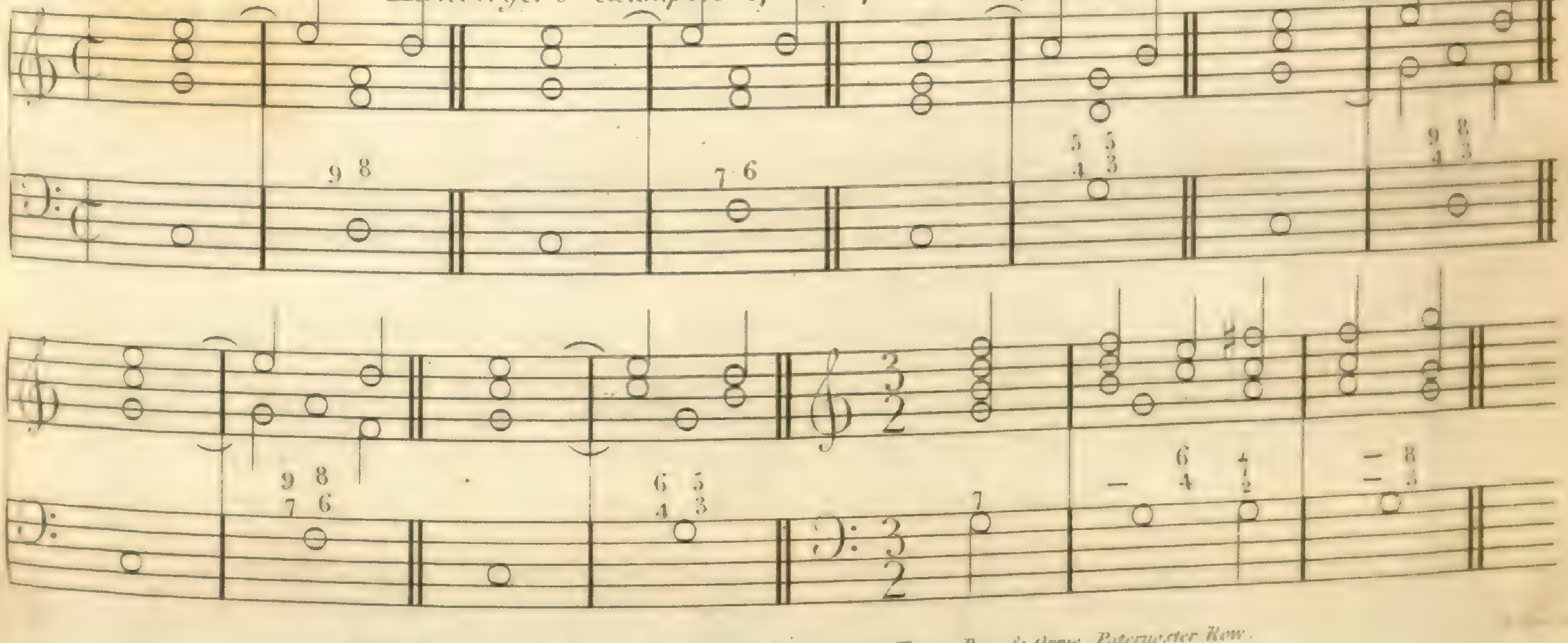
Roußeau's regular Modulation in the Key of C Major.



Kirnberger's two eßential Chords.

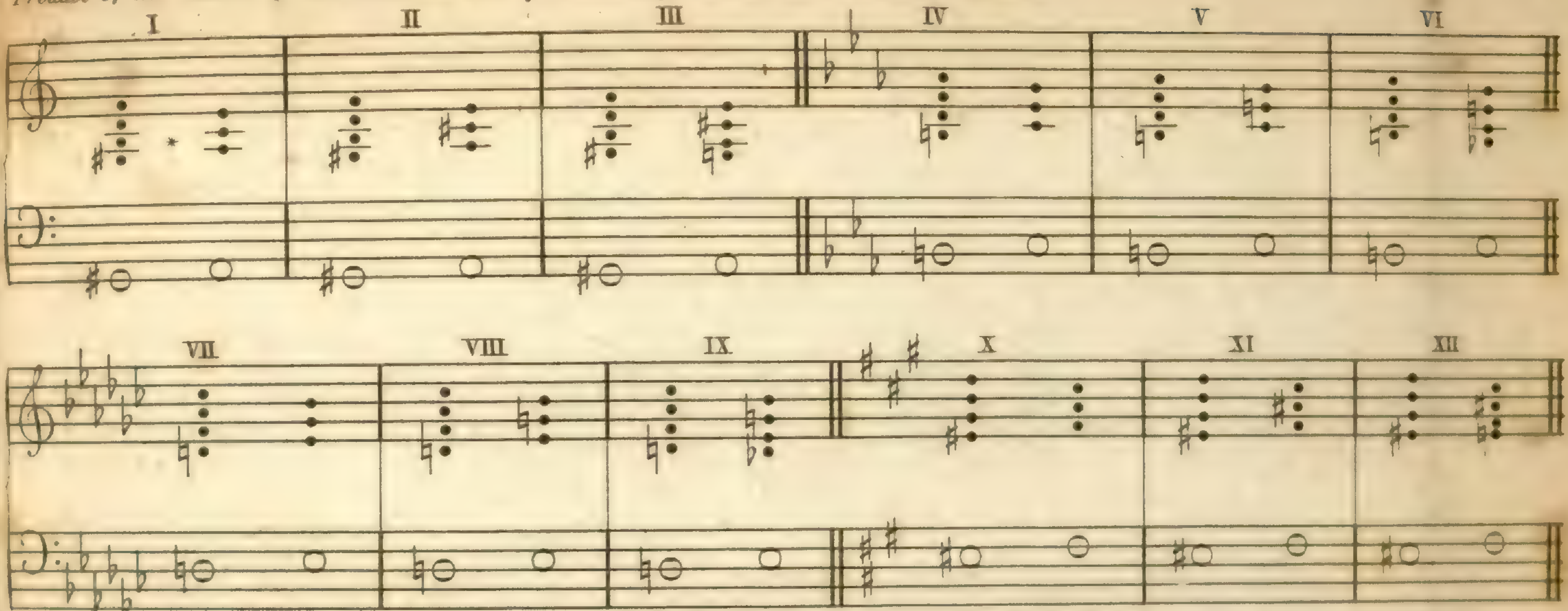


Kirnberger's examples of the first use of Discords.



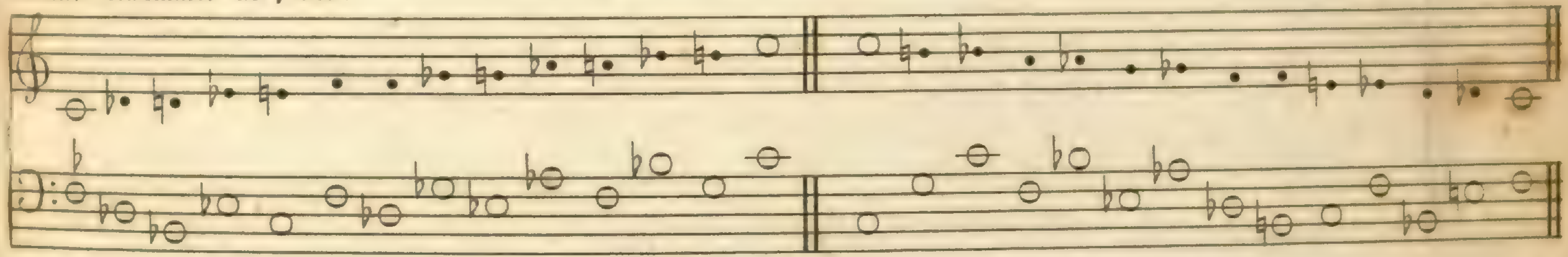
Published as the Act directs, July 1st 1806, by Longman Hurst Rees & Orme Paternoster Row.

Product of the Chord of the extreme flat 7th commonly called the enharmonic Chord.

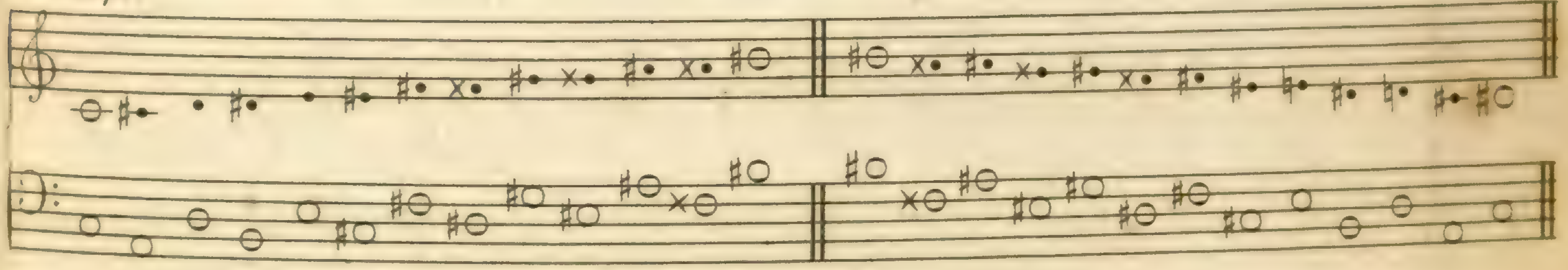


* The lowest Notes of these Chords may be regarded as the Tenor part in octave with the Base.

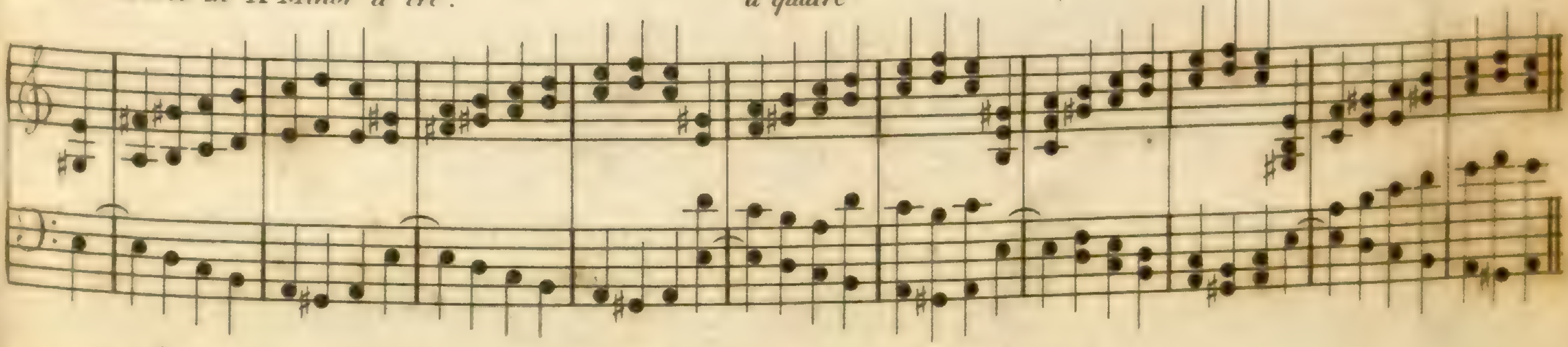
Modern Chromatic in flats.



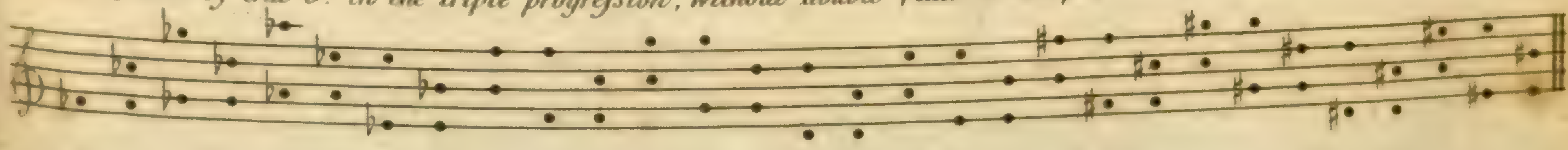
In Sharps.



Moto contrareo in A Minor à tre. *à quatre*

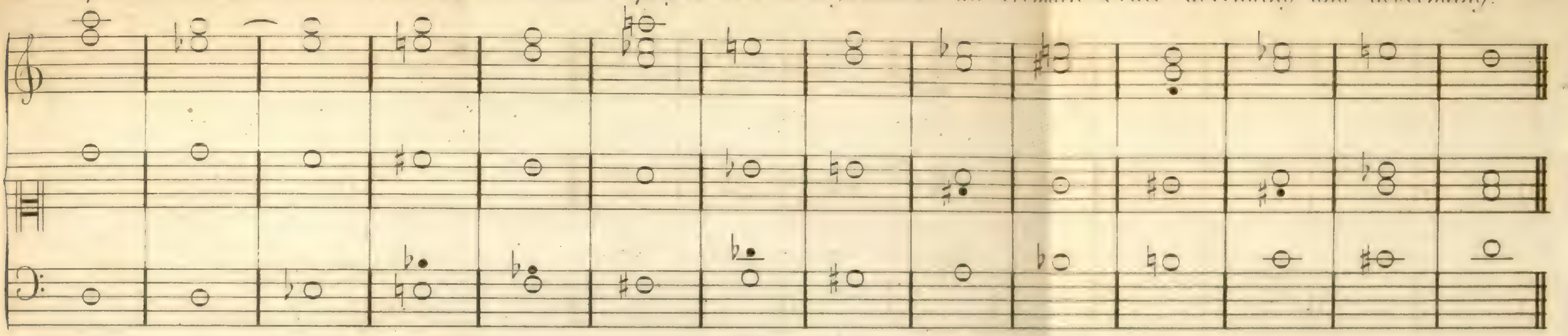


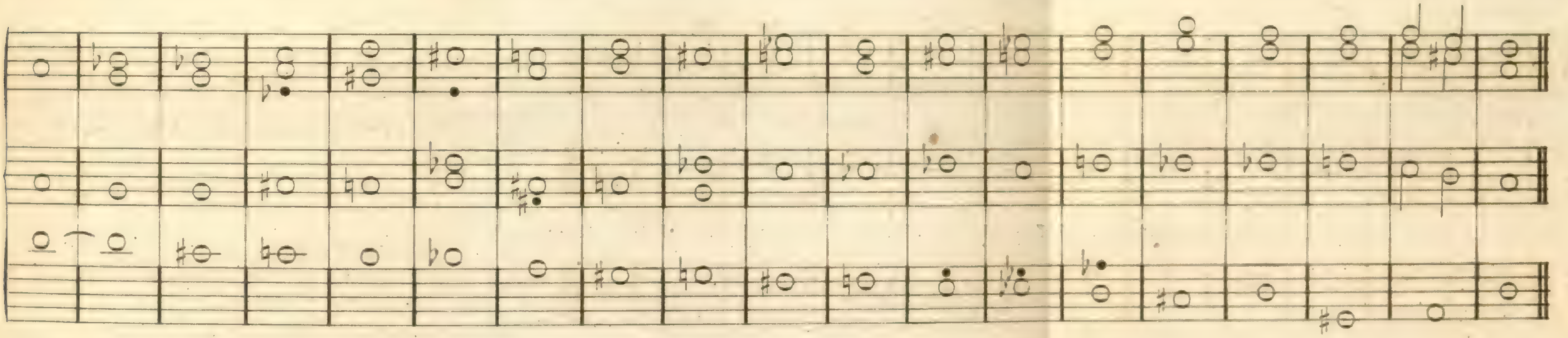
Compleat Scale by true 5ths in the triple progression, without double flats or sharps.



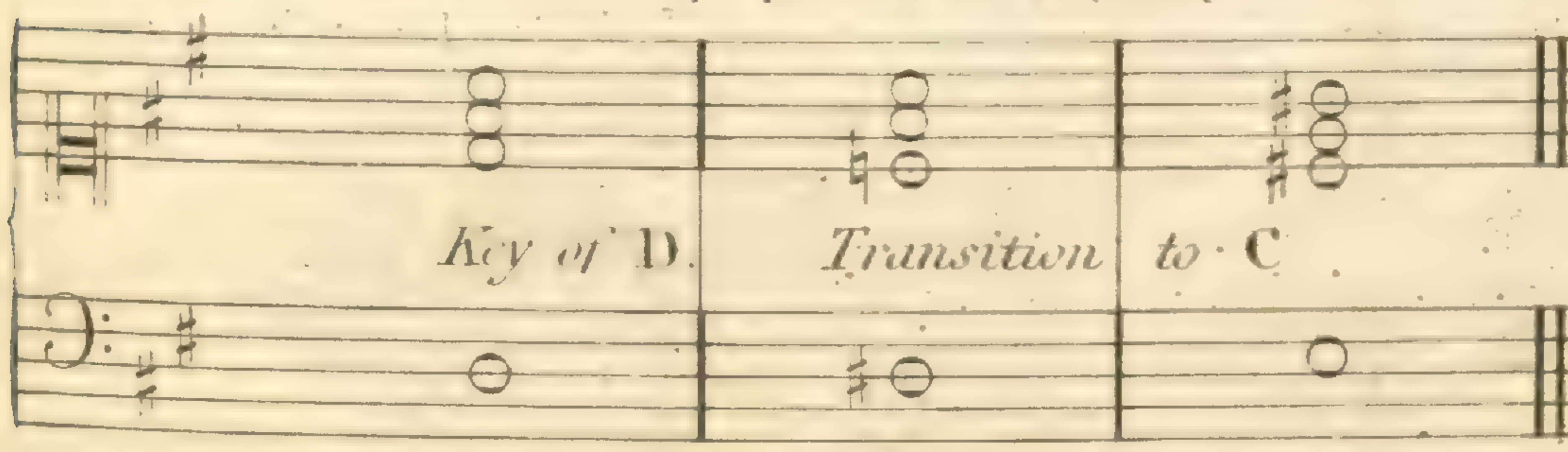
Publish'd as the Act directs April 1st 1806 by Longman, Hurst, Rees & Orme Paternoster Row.

Example of the Pathetic Genus, in which are expressed its successions in the Cromatic Scale ascending and descending.

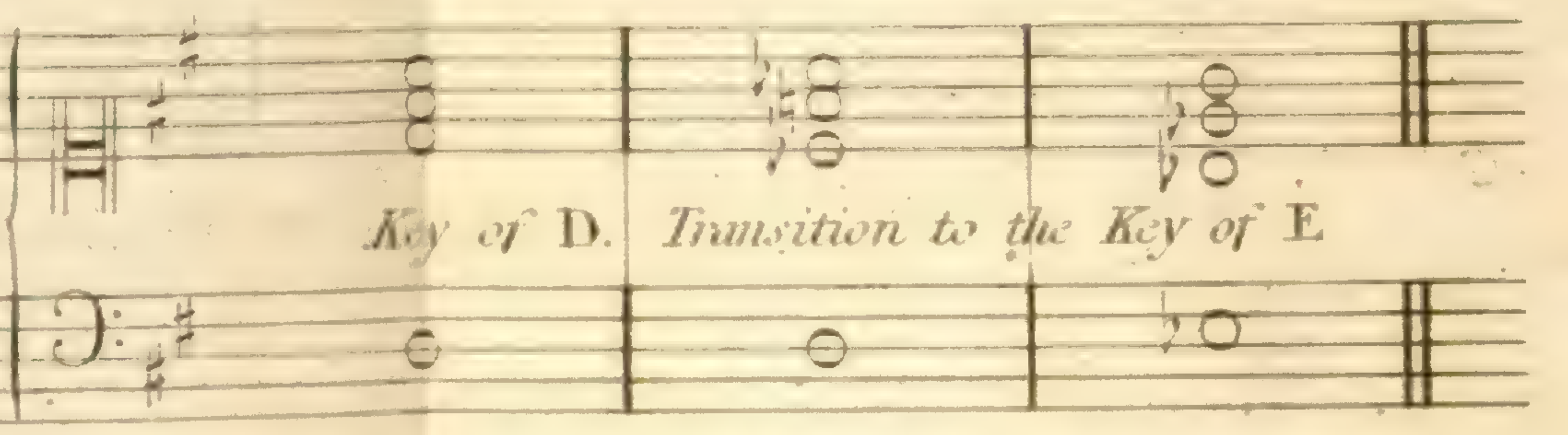




First example of passing immediately from a Key-Note to the sharp 7th of another Key.

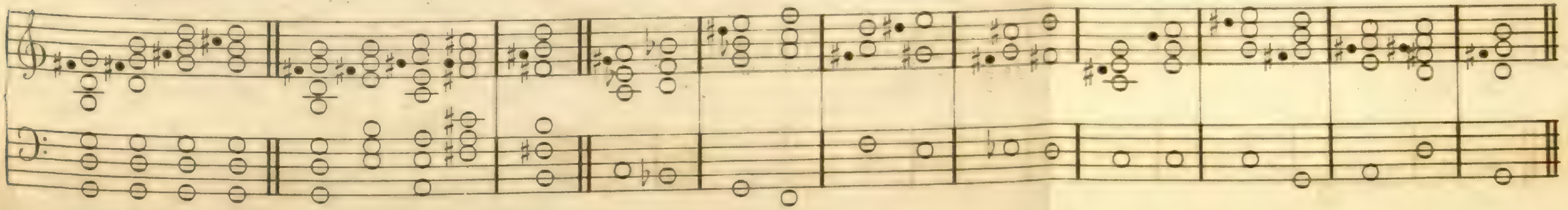


Second example, immediately passing from any Key-Note to the key of its flat 2d.



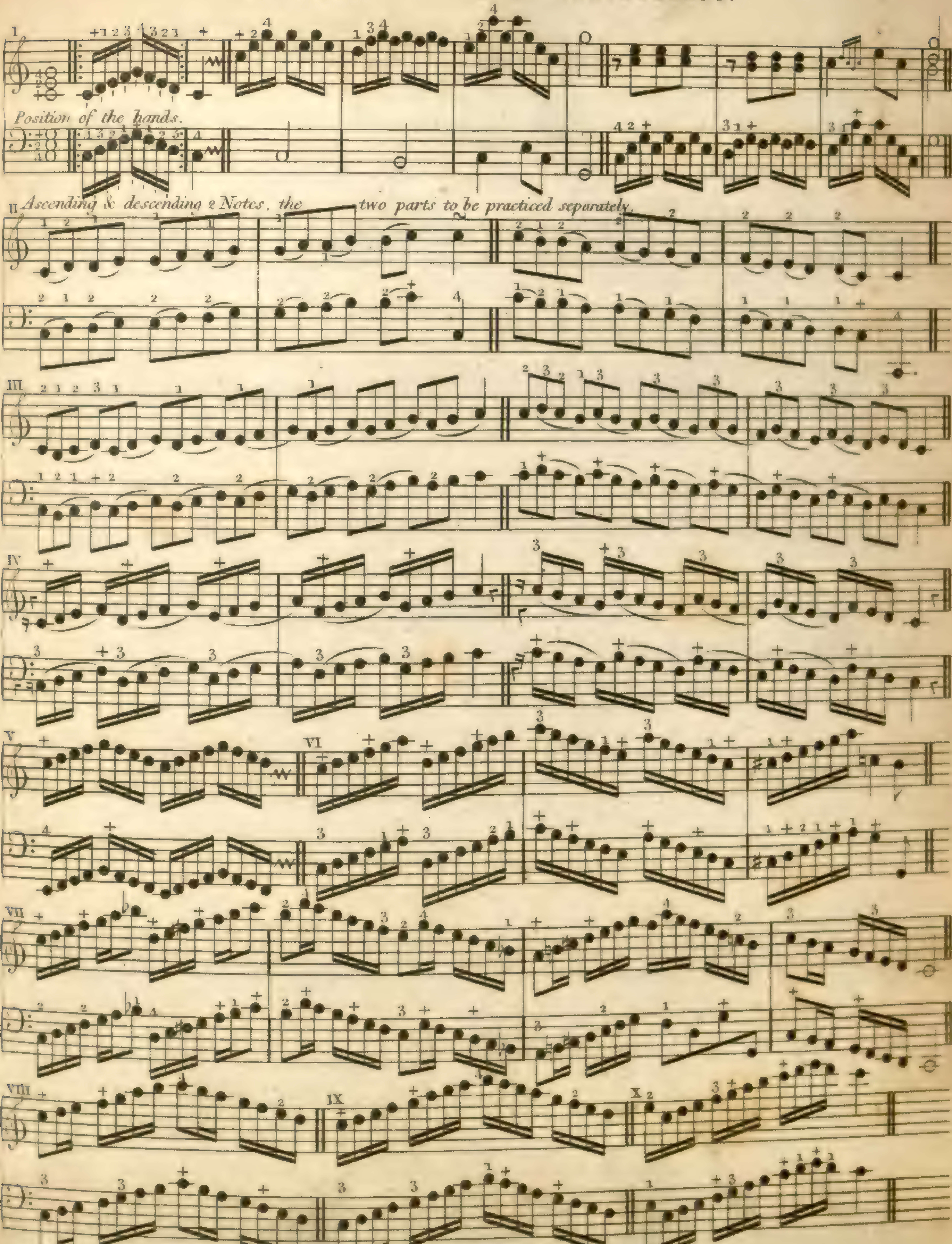
It must be observed, that to feel the effect of this sudden modulation, it is necessary to remain a little while upon the second Chord, before we pass to the third. This tends to another Theorem, which few Musicians will dispute, namely, that there is one note in the harmony of every Chord which suits with every kind of movement, and another harmony quite different, which belongs only to Adagios. The Pathetic Genus appertains only to that.

Acciaccature



Published as the Act directs April [illegible] by Longman Hurst Rees & Orme Paternoster Row.

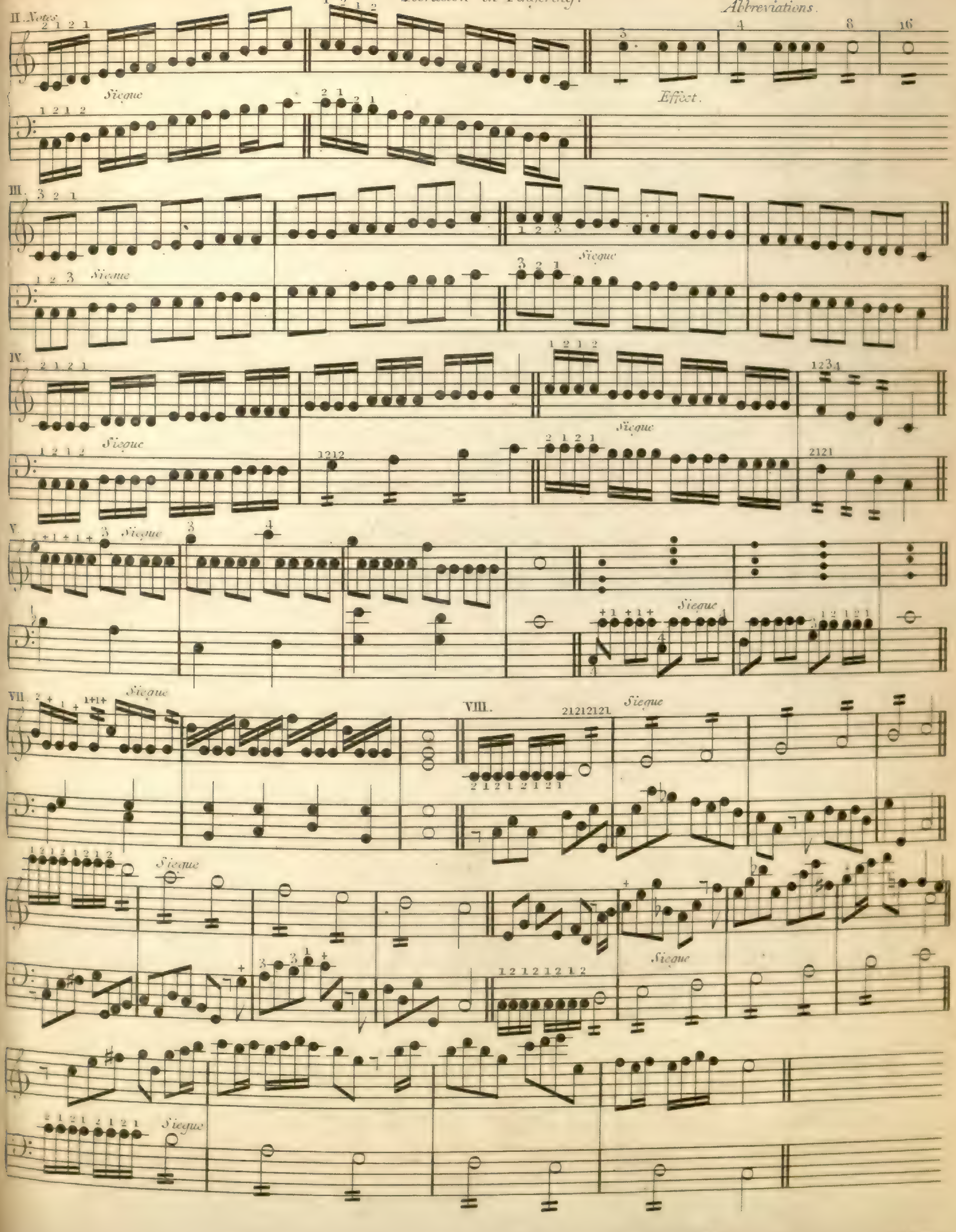
Fingering on Keyed-instruments.



Published as the Act directs Nov. 1st 1818, by Longman, Hurst, Rees & Orme, Paternoster Row.

MUSIC.

Iteration in Fingering.



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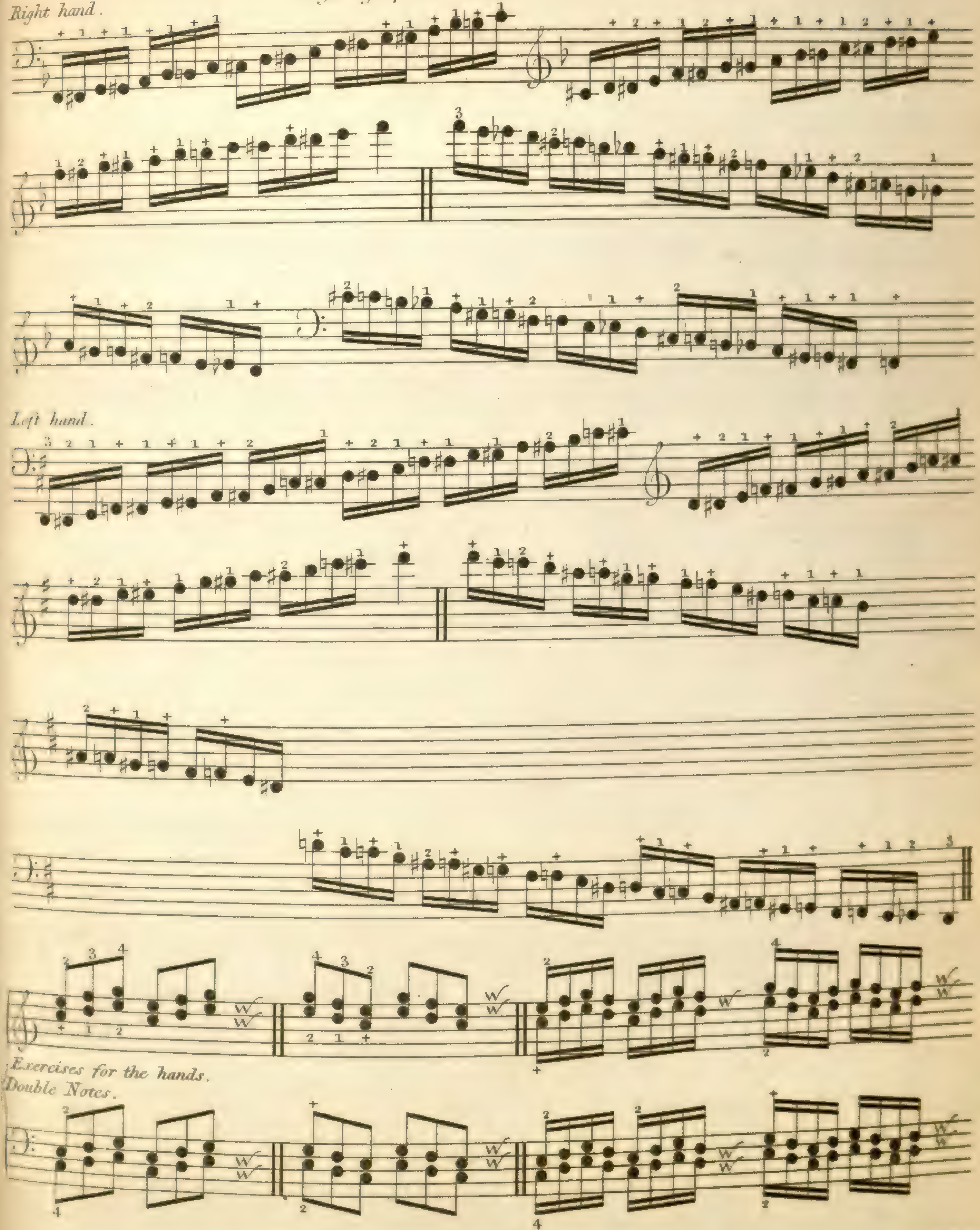
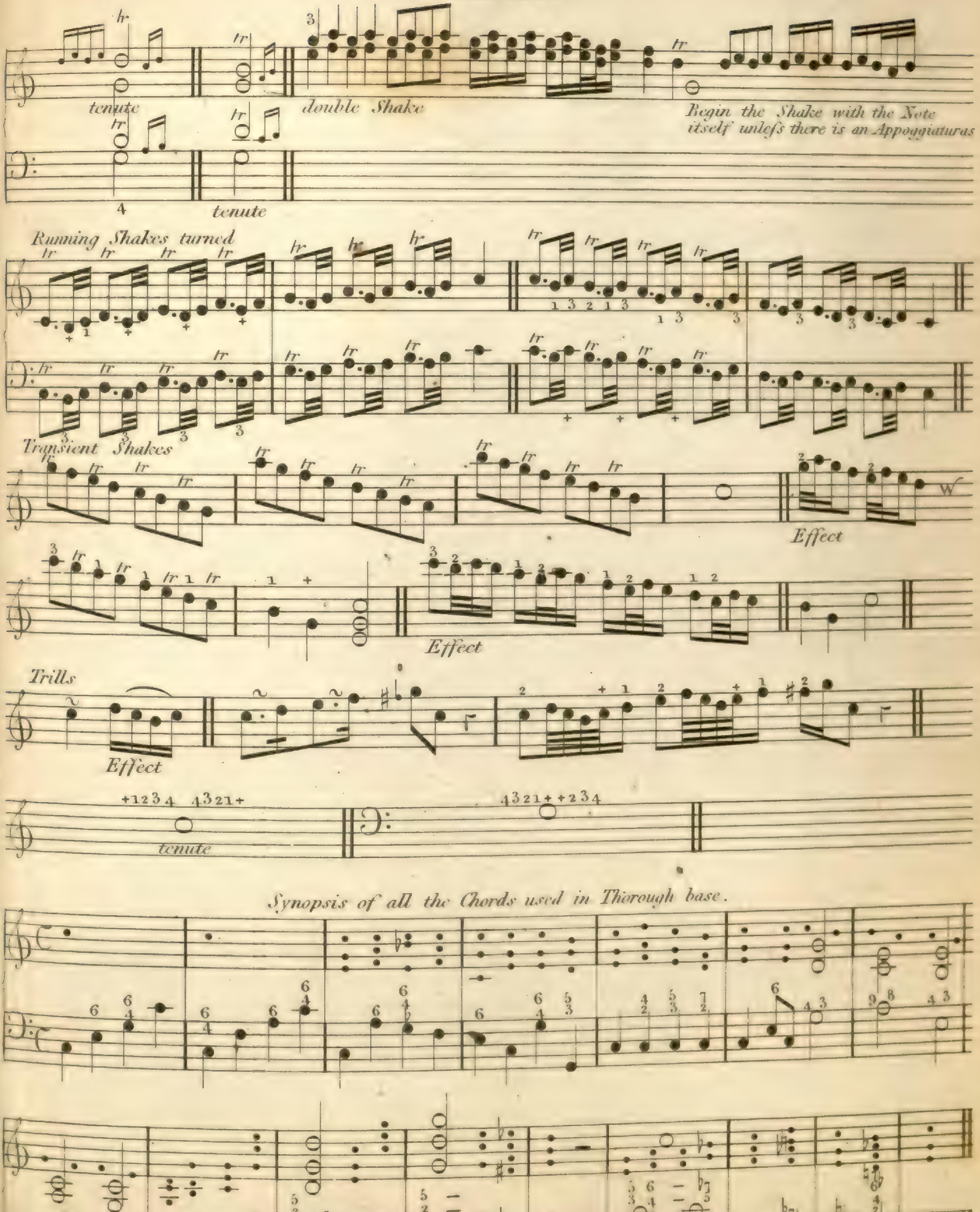
MUSIC.

Fingering of semitonic or chromatic divisions.



Published as the Act directs Nov.r 3.th 1818, by Longman Hurst Rees & Orme Paternoster Row.

SHAKES.



Published as the Act directs Nov.r 5th 1818 by Longman Hurst, Rees & Orme, Paternoster Row

MUSIC.

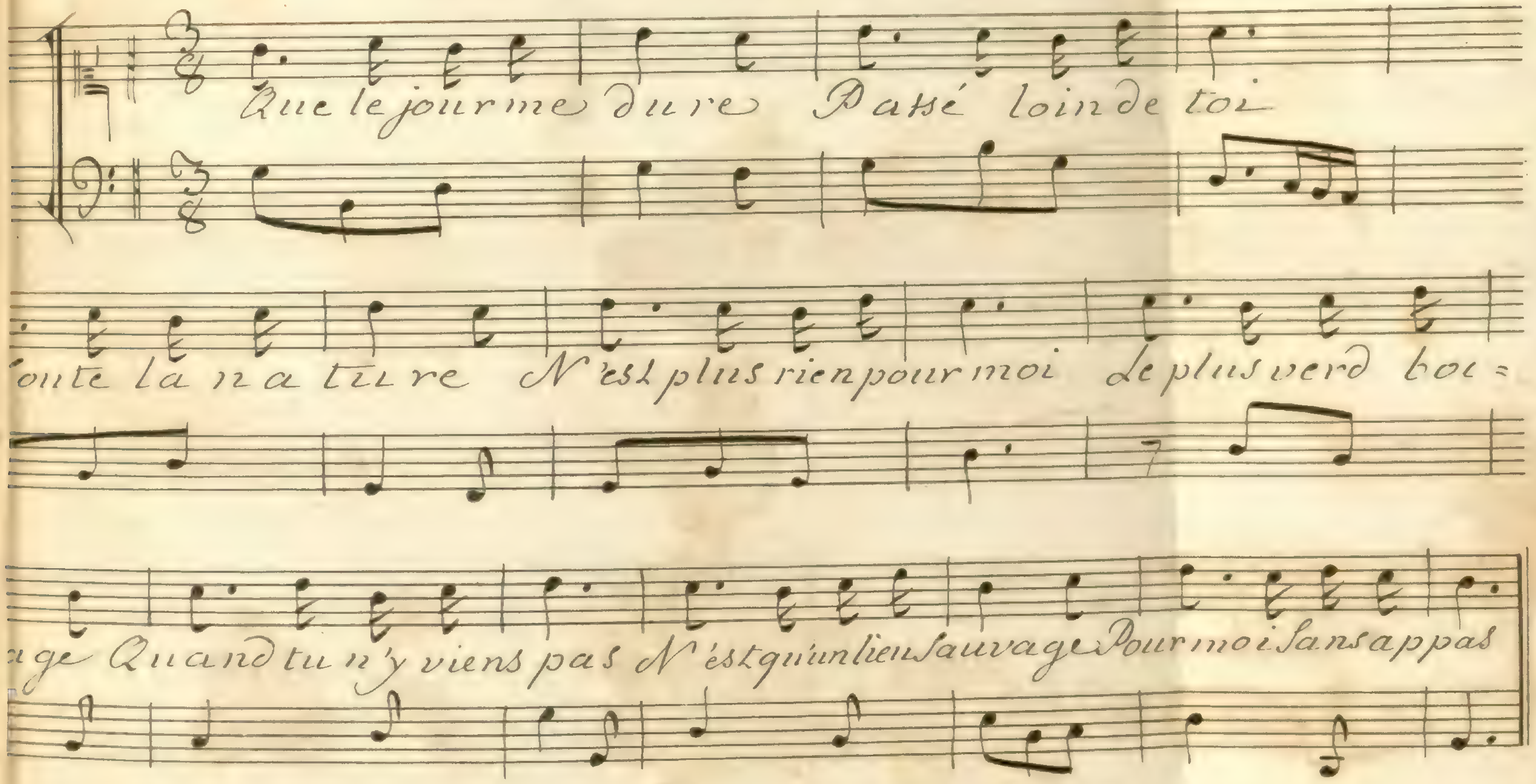
SCALE OF THE BASSOON.

Published as the Act directs ... Hurst, Rees & Orme, Paternoster Row

Air upon three Notes, sent to the Author of this Article by the late M. Rousseau in his own hand writing.

A Fac-simile

Romance
Air de trois notes.



2.

las! si je passe
jour sans te voir
cherche ta trace
ns mon desespoir:
and je l'ai perdue
resté à pleurer;
ame éperdue
près d'expirer.

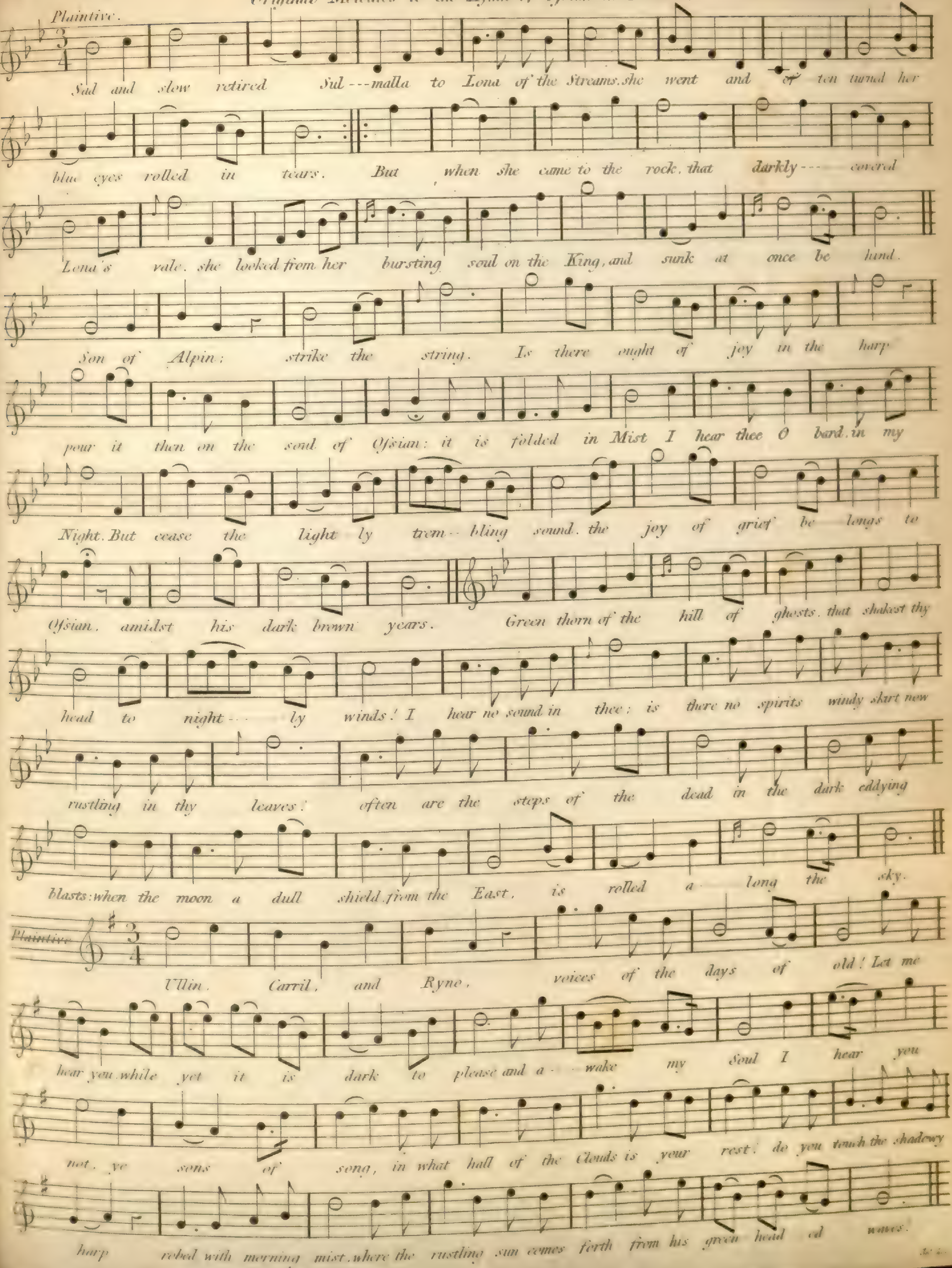
3

Le coeur me palpite
Quand j'entens ta voix:
Tout mon sang s'agite
Dès que je te vois.
Ouvres-tu la bouche
Les Cieux vont s'ouvrir;
Si ta main me touche,
Je me sens frémir.

Published as the Act directs March ... by Longman Hurst Rees & Orme Paternoster Row

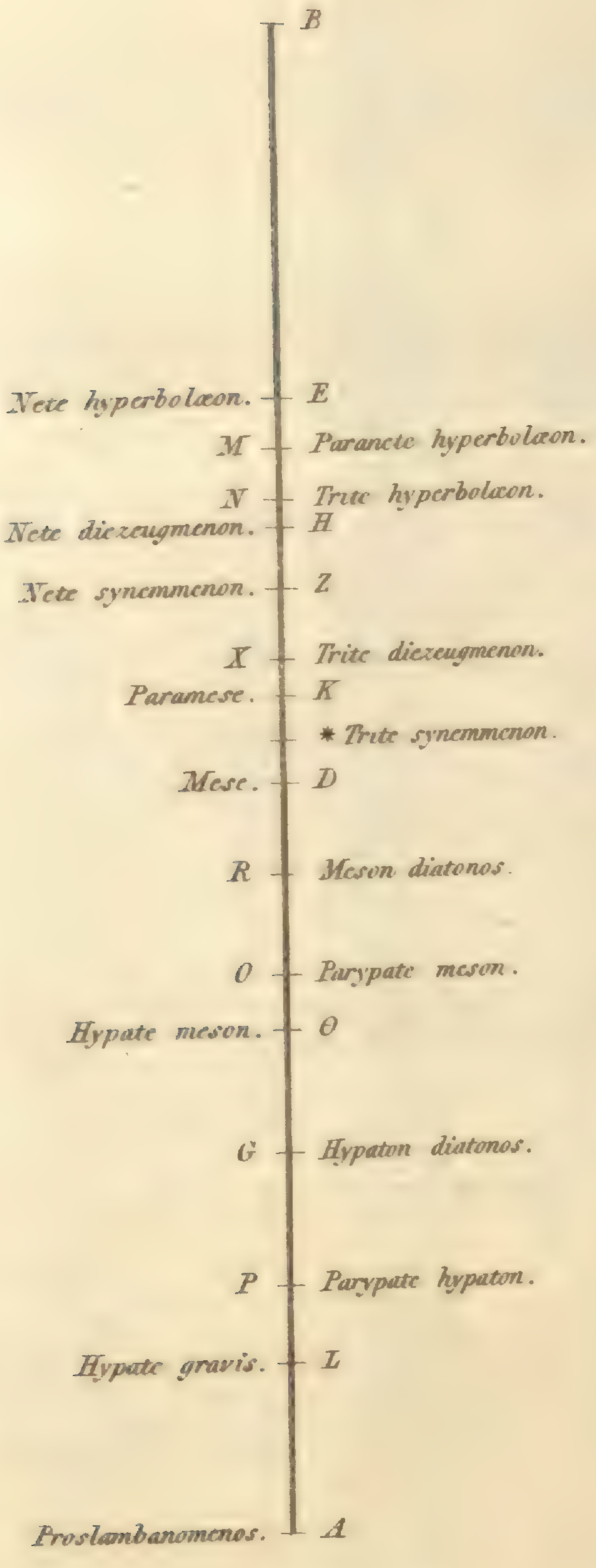
MUSIC.

Original Melodies to the Hymn of Oſsian in Temora.



EUCLIDIS SECTIO CANONIS.

See the Article Euclid.

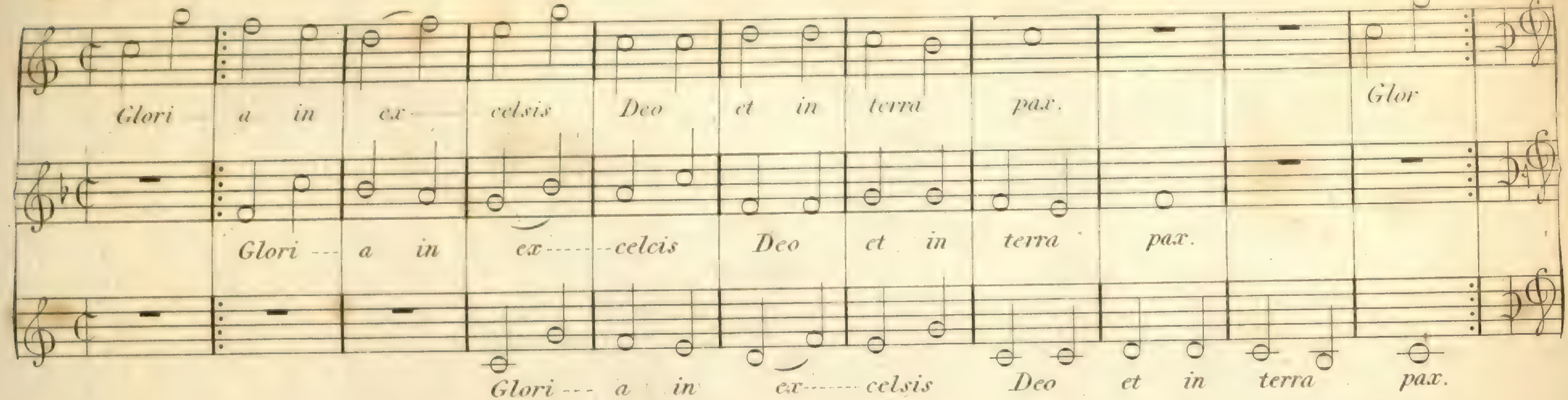


Published as the Act directs April 11th 1808 by Longman Hurst Rees & Orme Paternoster Row.

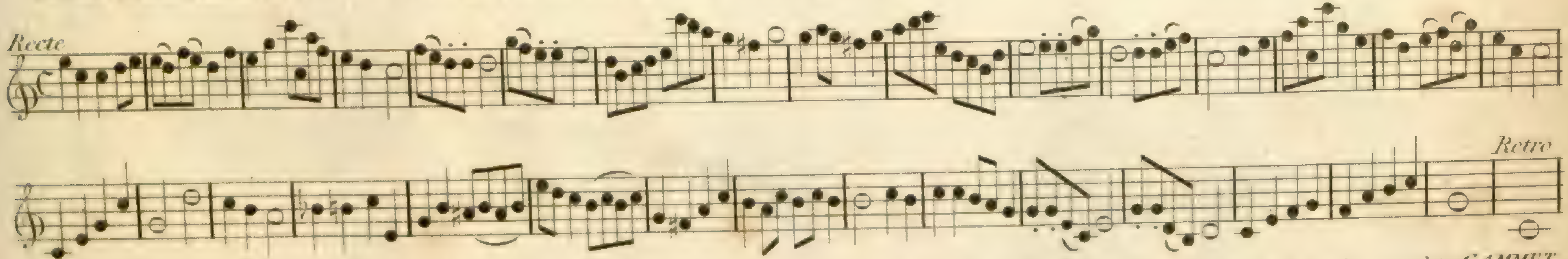
MUSIC.

Canon in ogni modo: recte, retro, ed a rovescio.

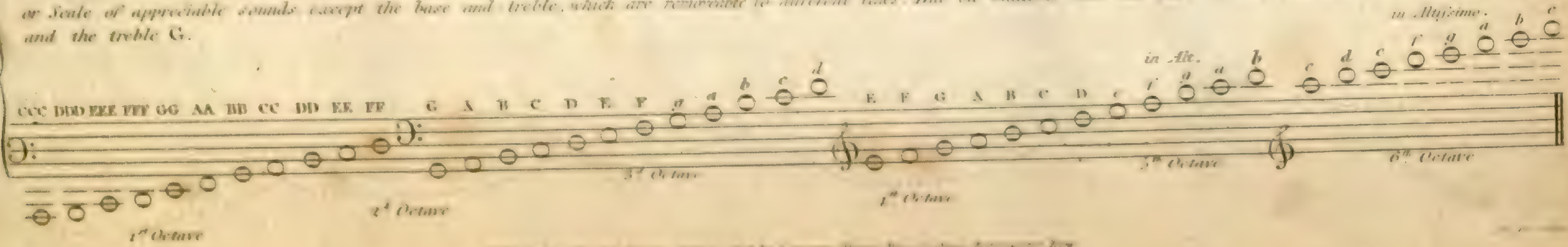
In this kind of Counterpoint, there must be no pointed notes, rests, accidental flats, sharps, naturals or tritones in the melody; nor discords, appogiaturas or passing notes in the harmony; neither does this kind of composition admit of minor Keys.



Canone Cancherizando: in which the base begins at the end, and moves backwards like a Crab.



The complete set of Keys on the Piano Forte in present use, with additional keys at the bottom as well as the top. N.B. No Clifs are used in this complete GAMMUT or Scale of appreciable sounds except the base and treble, which are removeable to different lines. But on whatever line the base Clif is placed, it makes that line F, and the treble G.



ANCIENT MUSICAL INSTRUMENTS.

1. *A Timbrel, or Tambour de Basque.*
2. *A Citharistria, or female minstrel.*
3. *A double Lituus.*
4. *Pan playing on the Syrinx.*
5. *A Bacchanal playing on two Flutes of the same pitch: Tibiæ pares*

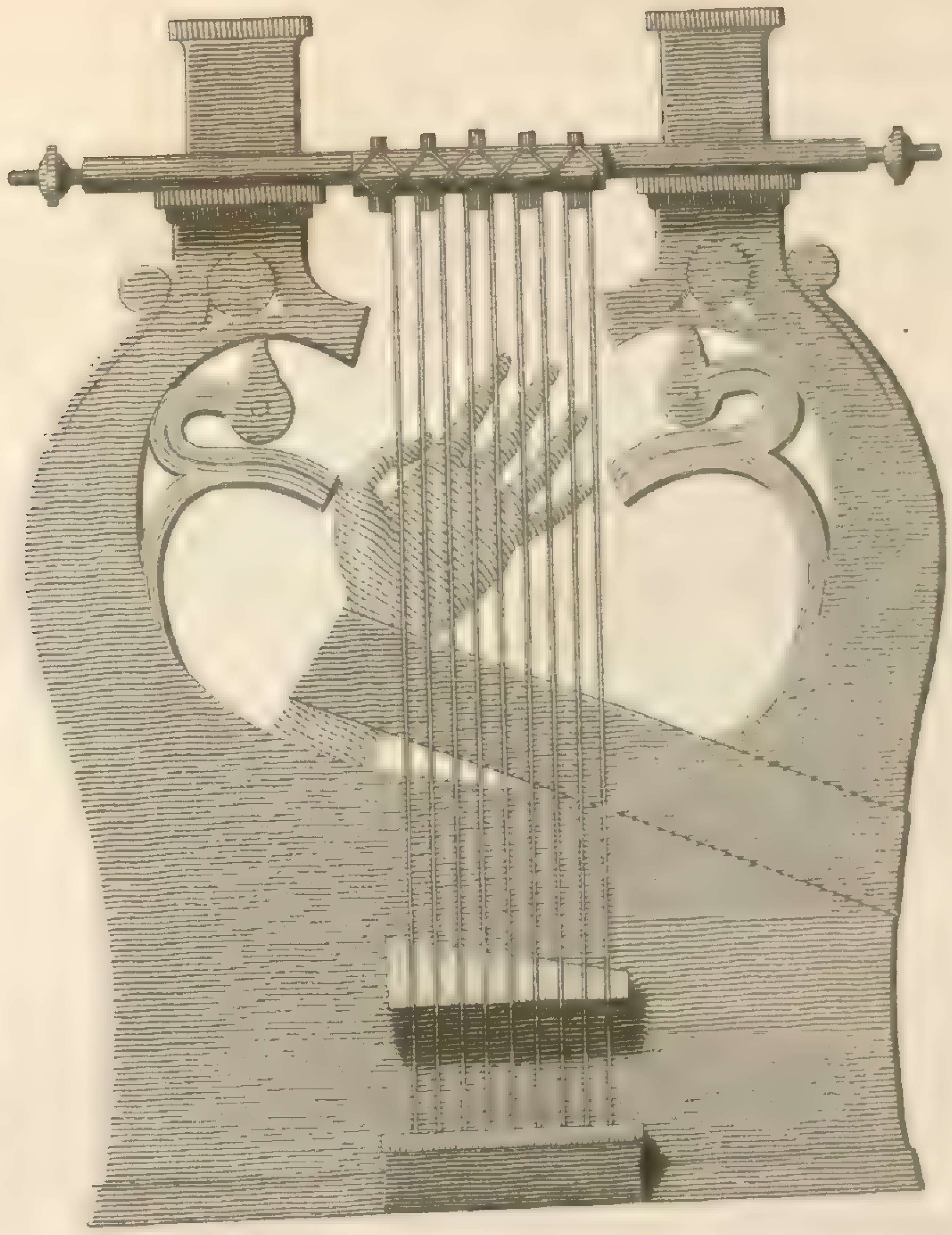
6, 7. *Antique Theatrical Masques.*

8. *A genuine ancient metalline Lituus*

Published as the Act directs, Jan 1st 1803 by Longman & Rees, Paternoster Row.

ANCIENT MUSICAL INSTRUMENTS & MASKS.

1



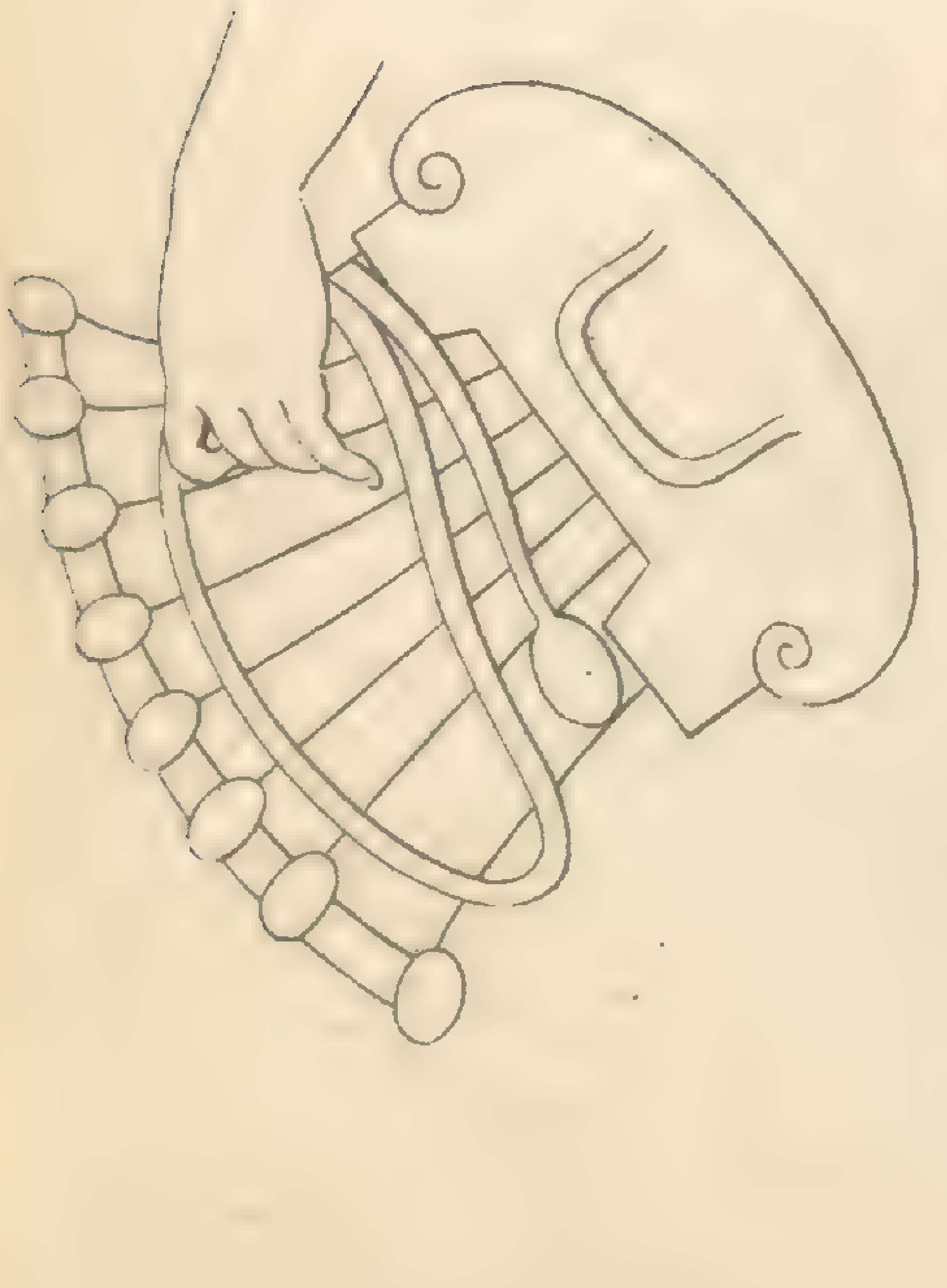
3

2

4

5

6



1\. *A Beautiful Greek Barbiton, or Harp, from a bas-relief, a Cast of which is in the Royal Academy. An Antique Marble in the British Museum has a similar Barbiton, the Greek Vases &c. furnish similar examples.*

2\. *A Mask of the Hercules furens of Euripides from a Marble in the Palace Albani in Rome.*

3\. *A Mask of Thais from Terence's play of the Eunuchs in the Illuminated Vatican M.S. of his Comedies.*

4\. *This figure is in the 42nd Plate of the 4th Vol. of the Herculaneum Paintings.*

5 & 6. *Lyres from Sr Wm Hamiltons last Collection of Vases.*

Published as the Act directs, June 1. 1803, by Longman & Rees, Paternoster Row

ANCIENT MUSICAL INSTUMENTS.

PLATE III.

1 2 & 3 are all taken from the same piece of Ancient sculpture, in the Ghigi Palace at Rome, representing a Group of Musicians performing an Epithalamium
4. The Tuba or long Trumpet, called by the Hebrews, the Trumpet of the Jubilee; to be seen on the Arch of Titus, and on Trajans Pillar
5. Cupid playing on a double Flute or Tibiæ pares, from an Ancient painting in the Museo at Portici.
6 7.8.9 & 10 From Egyptian paintings in the Tombs of the Kings of Thebes &c. — Denon Pl. 35 — Nos [illegible]. 27. [illegible]. 30 & 32.

Published as the Act directs, May 1.1804 by Longman & Rees, Paternoster Row.

ANCIENT MUSICAL INSTRUMENTS.

1 & 2. *The Testudo or Lyre of Amphion in front & profile as it appears on the base of the Toro Farnese, at Rome.*
3. *The Lyre held by Terpsichore in the Picture of that Muse dug out of Herculaneum.*
4. *The Psaltery as delineated in the Picture of the Muse Erato dug out of Herculaneum*
5. *A Trigonium or Triangular Harp from an ancient Painting in the Museum of the King of Naples*
6. *The Abyssinian Testudo from a Drawing by Mr Bruce*
7. *An Etruscan Lyre with 7 Strings*
8. *A Lyre in the Ancient Picture dug out of Herculaneum, on which Chiron is teaching the young Achilles to play*
9. *An Egyptian Sistrum.* 10 *An Ancient Lyre richly ornamented*

INSTRUMENTS OF MUSIC.

INDIAN MUSICAL INSTRUMENTS.

Fig. 1.

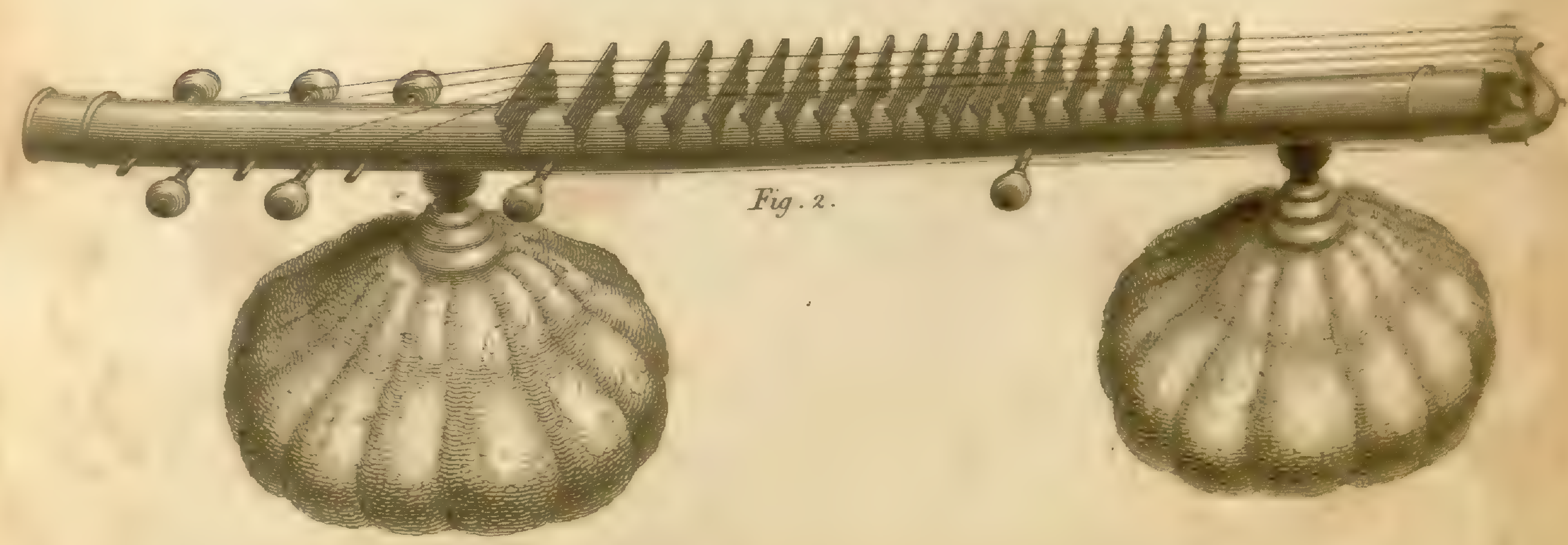


Fig. 2.

Fig. 1. From an original Indian Painting.

Fig. 2. The Been, an Indian Musical Instrument, as described by Sir William Jones, in a discourse on the subject, in the Asiatic Researches Vol. 1. P. 295.

Jn.° Lee sculp.

Published as the Act directs, Sept.r 2.d 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

INSTRUMENTS OF MUSIC.

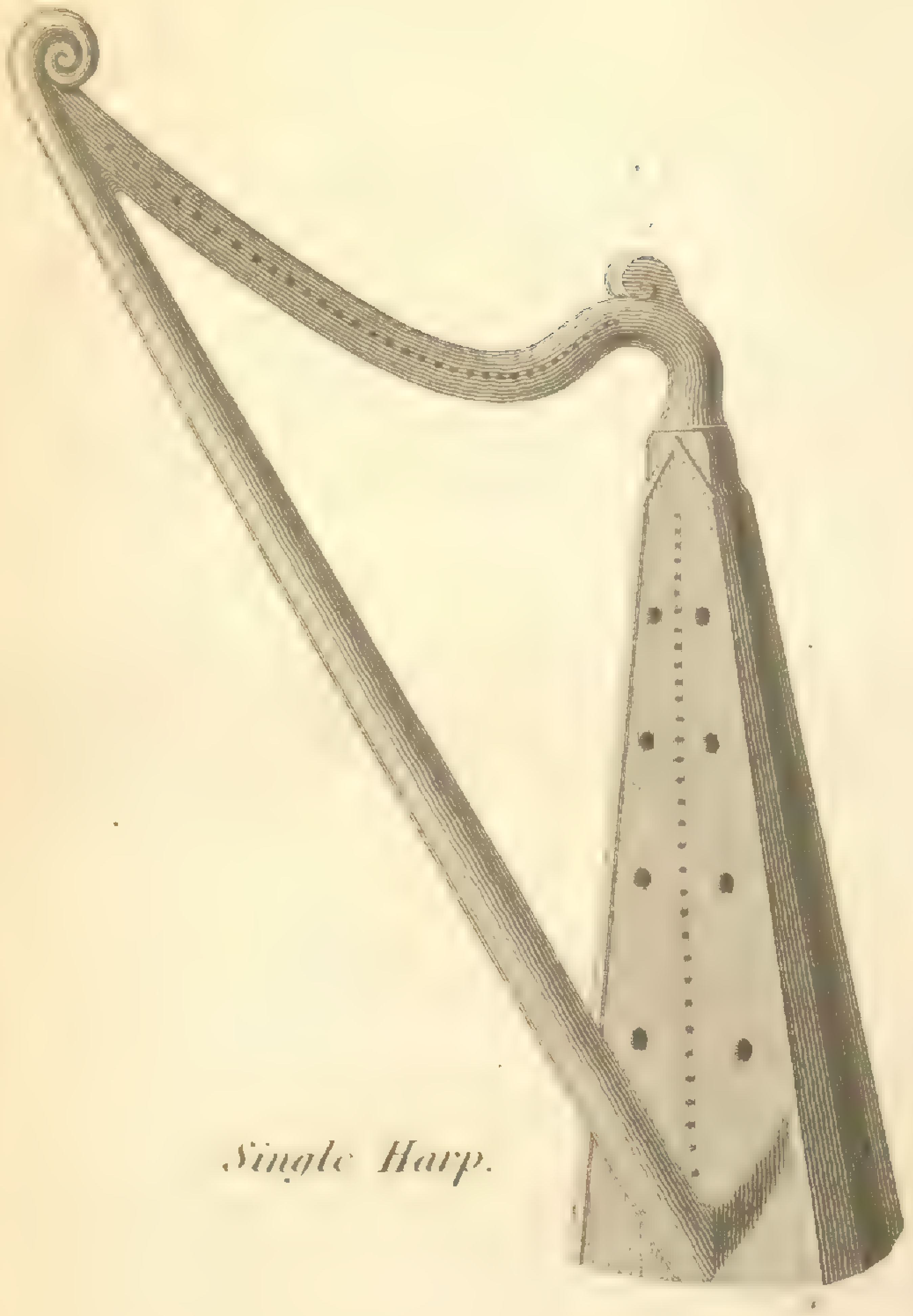
PANDEAN MINSTRELS, IN PERFORMANCE AT VAUX-HALL.

Jn Lee sculp

Published as the Act directs … by Longman Hurst Rees & Orme Paternoster Row

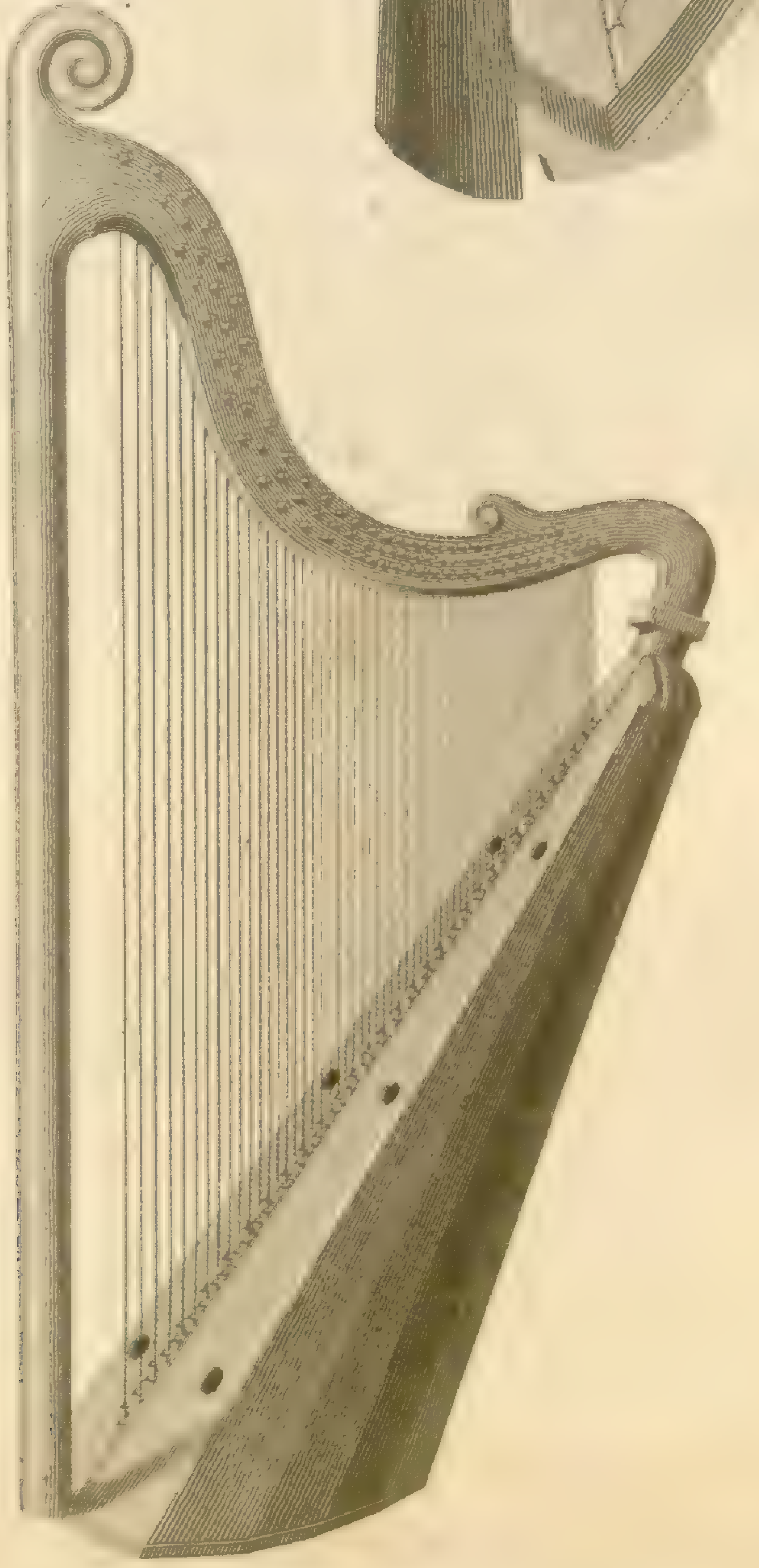
MUSICAL INSTRUMENTS.

WELSH HARPS.



Single Harp.

Ancient Triple Harp



Modern Triple Harp.

Published as the Act directs April 1. 1808 by Longman, Hurst, Rees, & Orme, Paternoster Row.

MUSICAL INSTRUMENTS.

ORIGIN OF THE BOW.

Fig. 4

Fig. 1

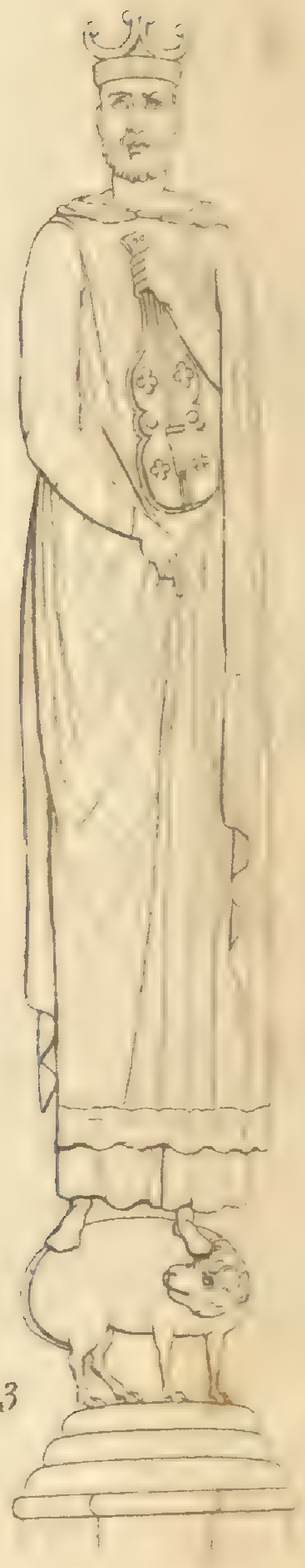


Fig. 3

Fig. 2

Fig. 5

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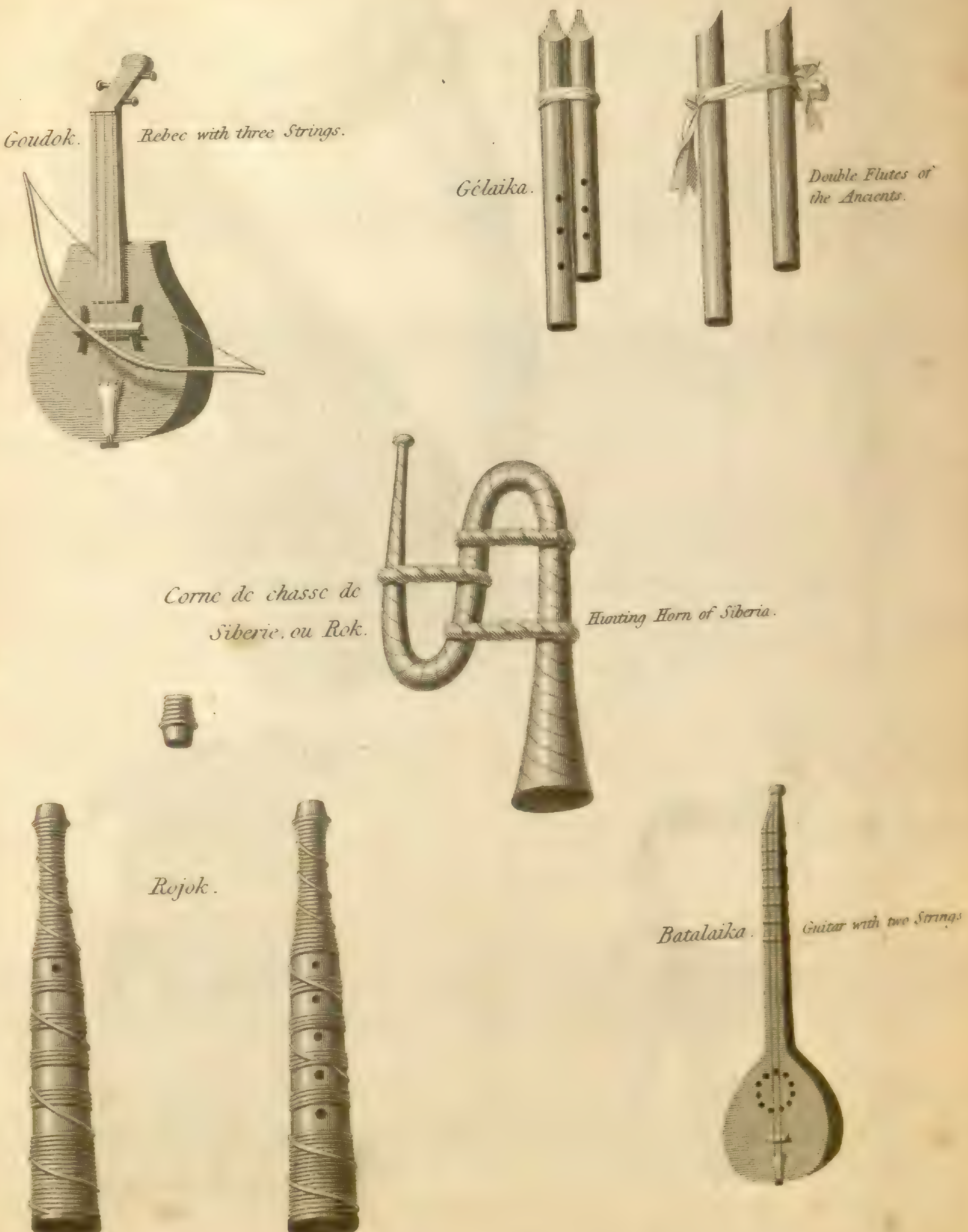
RUSSIAN MUSICAL INSTRUMENTS.

From the Russian Antiquities, by M. Guthrie, Physician to the late Empreſs Catherine.



Published as the Act directs. April 11th 1808 by Longman Hurst Rees & Orme Paternoster Row.

MUSICAL INSTRUMENTS.

HARPS.

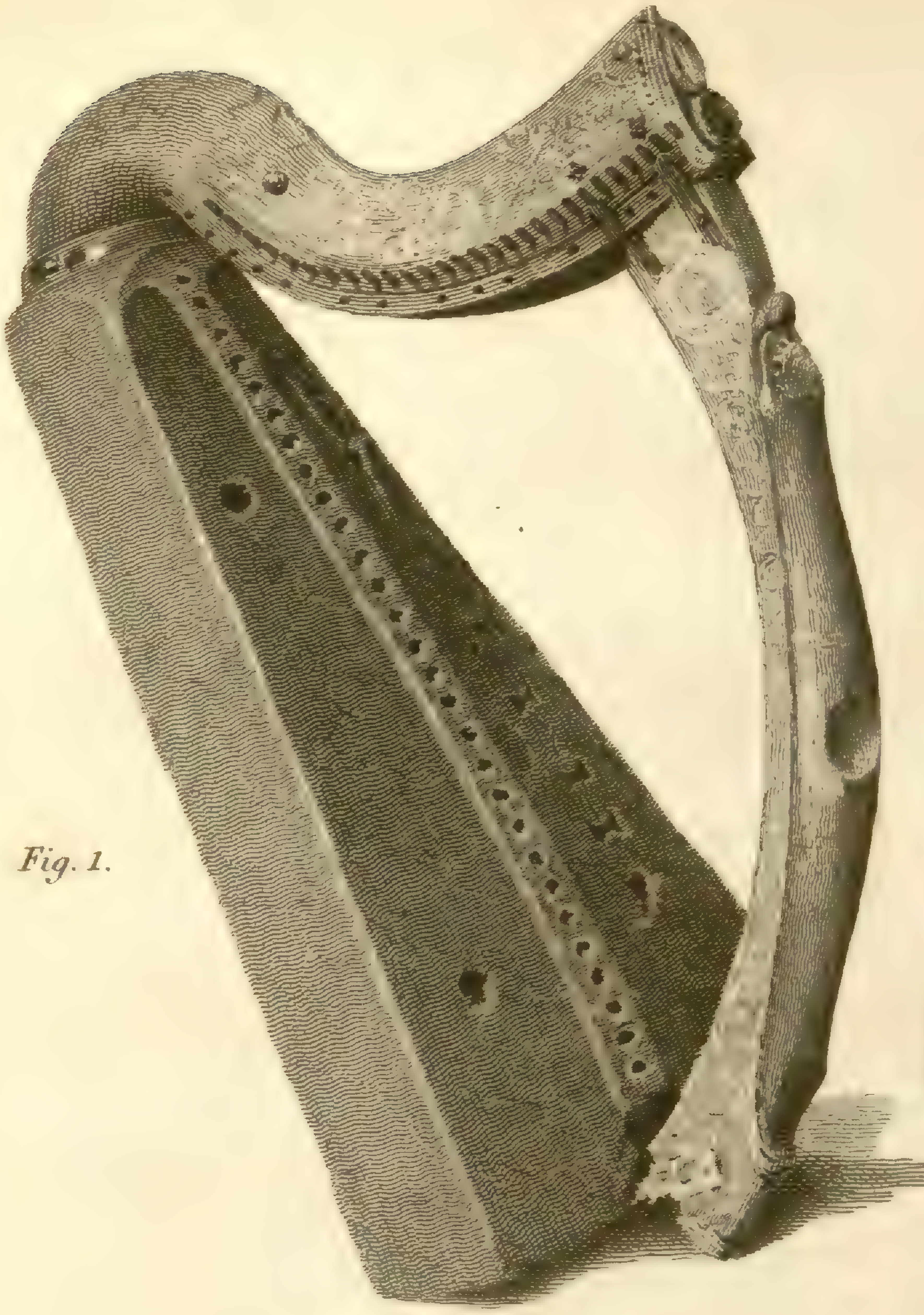


Fig. 1.

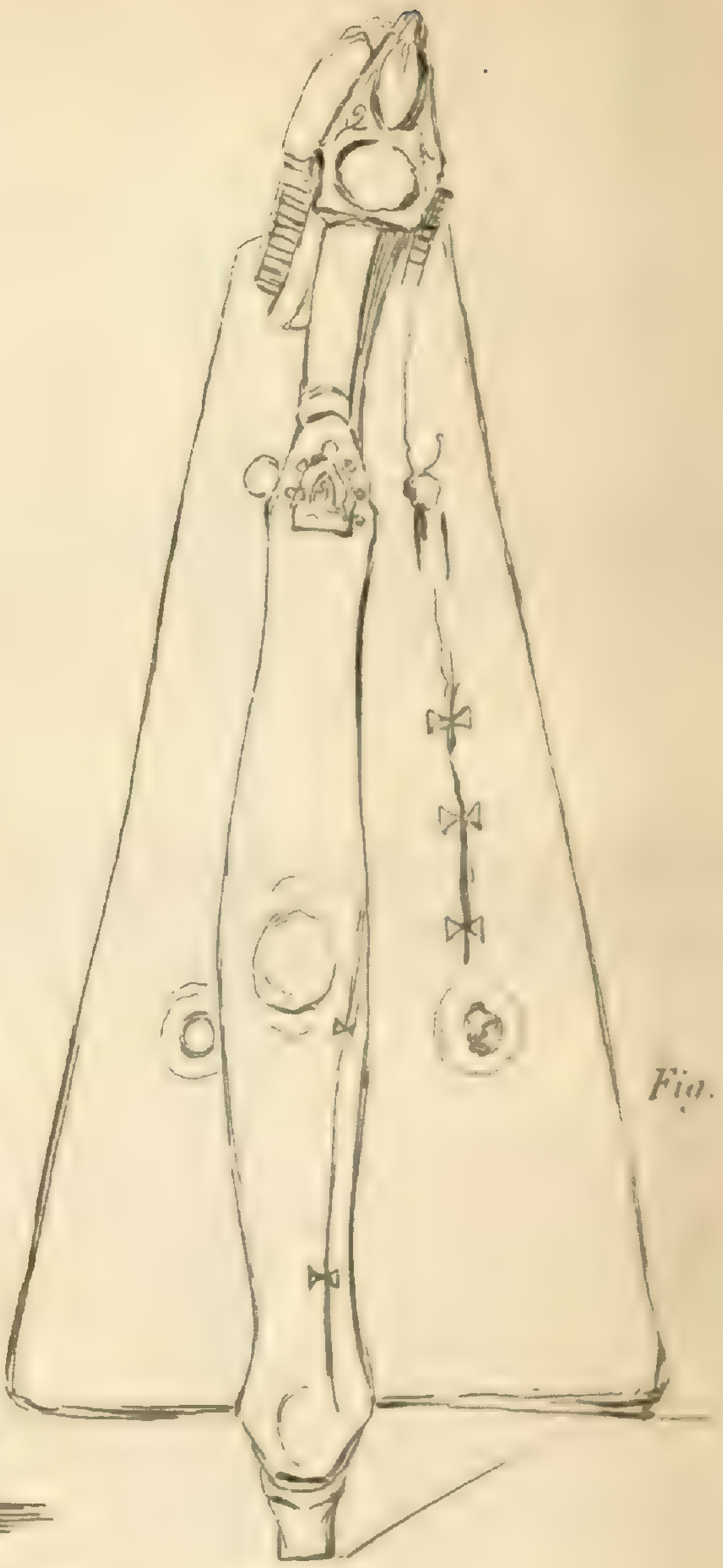


Fig. 2.

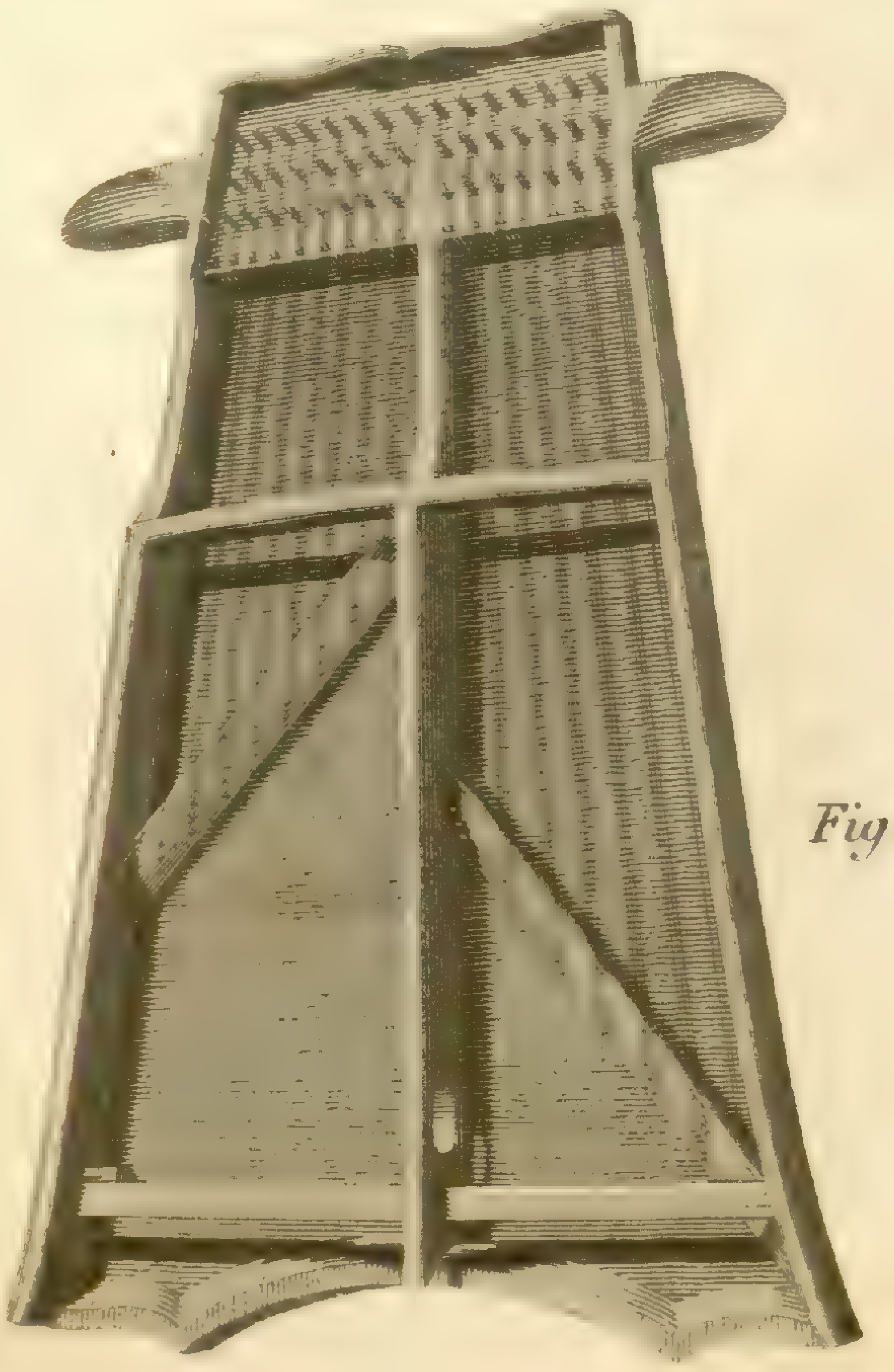


Fig. 4.

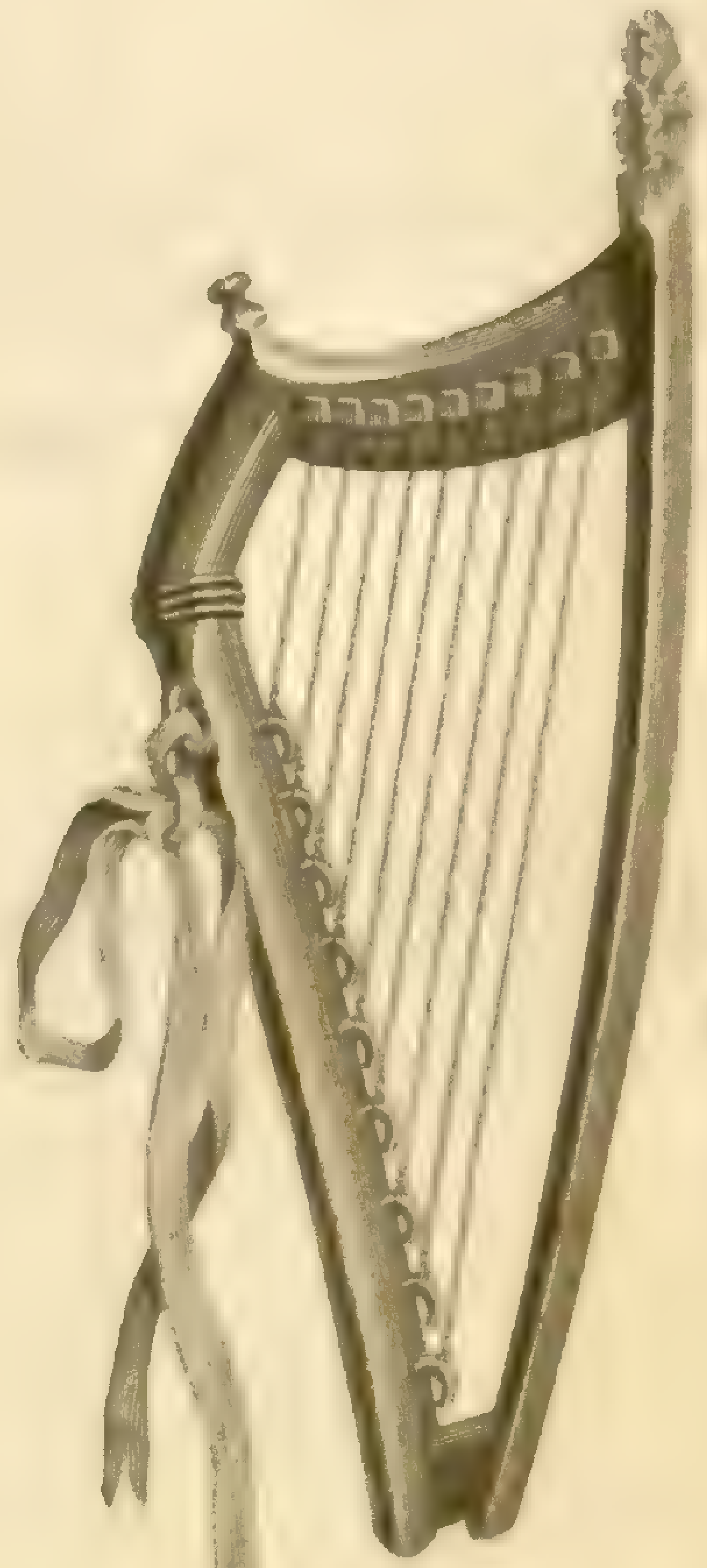


Fig. 3.

Fig. 1 & 2. The Harp of Brian Boromh. height 32 In. In the University of Dublin.

Fig. 3. Silver Prize Harp. height 6½ In. In the possession of Dr. Burney.

Fig. 4. Bell Harp. height 21 In. In the possession of Mr. Jones.

Published as the Act directs, Augt. 6. 1808, by Longman, Hurst, Rees, & Orme, Paternoster Row.

MUSICAL INSTRUMENTS.

Scale to Fig.s from 1 to 8.

1 . English Common Flute
2 German Flute
3 Improved German Flute with additional Keys
4 & 5 Hautboys
6 . B Fife
7 C Fife
8 English Flageolet
9 Gong
10 & 11 Tabour & Pipe

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MUSICAL INSTRUMENTS.

Fig.s 1 & 2 Hunting Horns. 3 Serpent. 4 French Horn. 5 Bugle. 6 Sacbut or Trombone

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MUSICAL INSTRUMENTS.

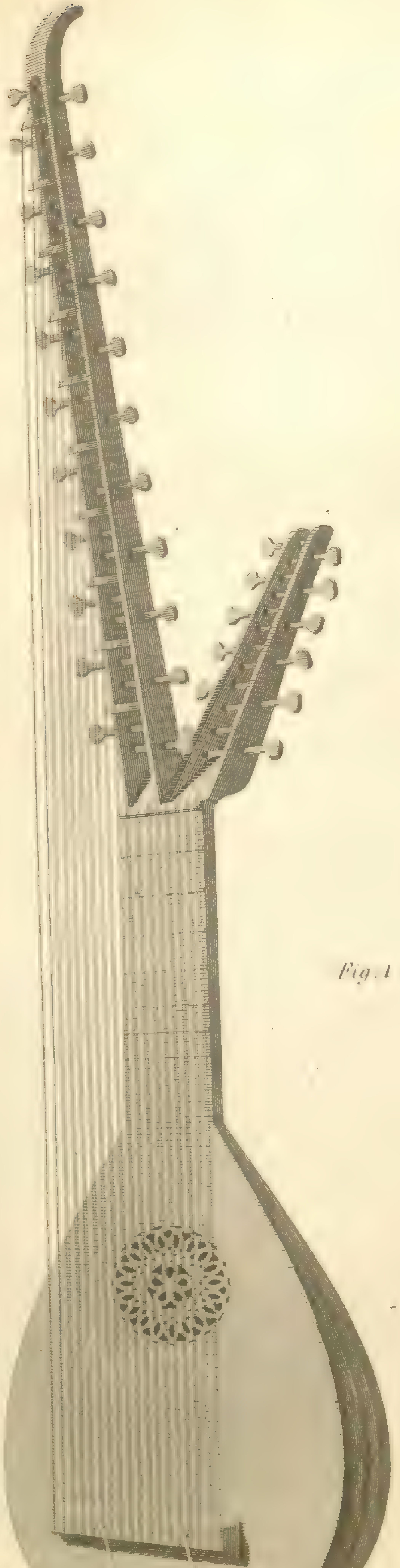


Fig. 1

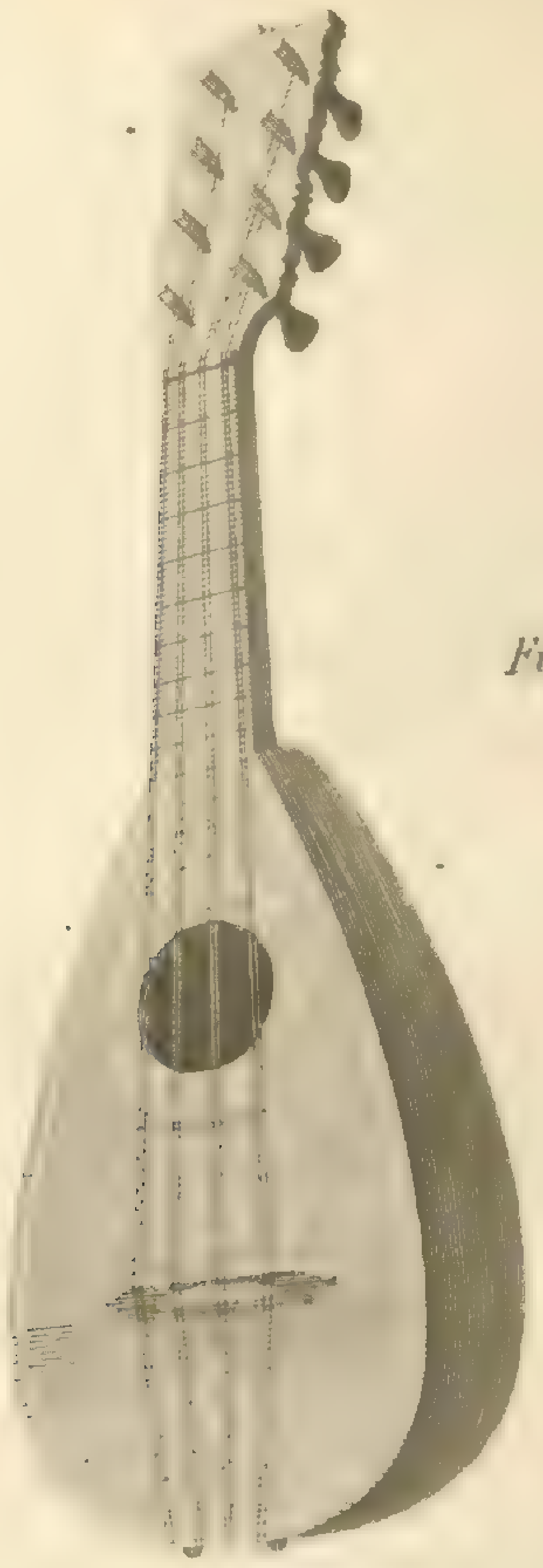


Fig. 2

Fig. 3

Fig. 1 Arch Lute height $\overset{F}{5}.\overset{In}{8}$ *In the Collection of the late M.r D. Walker. Fig. 2 Mandoline the distance from Bridge to Nut same as Violin* $\overset{In}{13}$. *Fig. 3 Mandola varies in length from Bridge to Nut according to its pitch*

Published as the Act directs Dec.r 1 [illegible] by Longman, Hurst, Rees, Orme & Brown Paternoster Row

MUSICAL INSTRUMENTS.

Fig. 1 & 2 Violin and Bow. Fig. 3 Sordine or Mute. Fig. 4 Violoncello.

Fig. 5 Violino Piccola or Kit. Fig. 6 Viol de Gamba of the 16th Century.

Published as the Act directs Jan. 1 1813 by Longman Hurst Rees Orme & Brown Paternoster Row

MUSICAL INSTRUMENTS.

Fig. 1

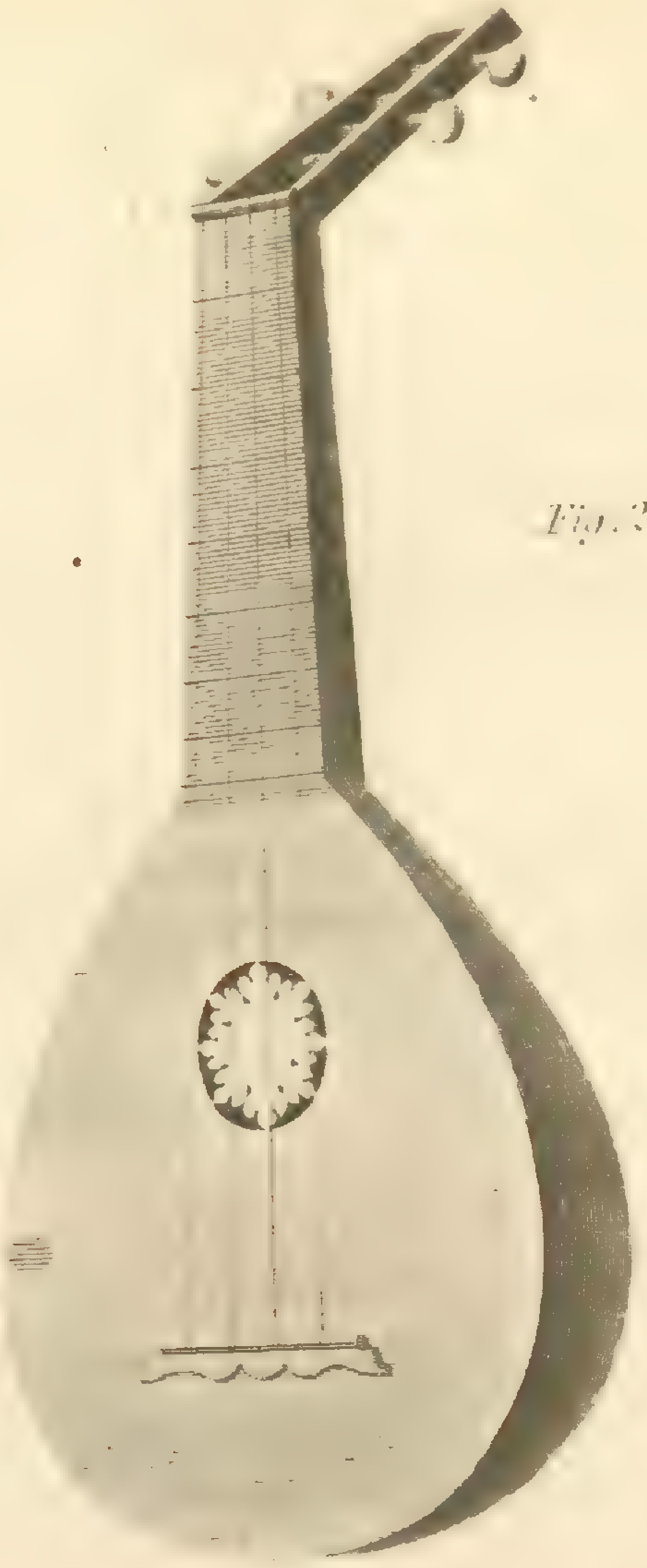


Fig. 2

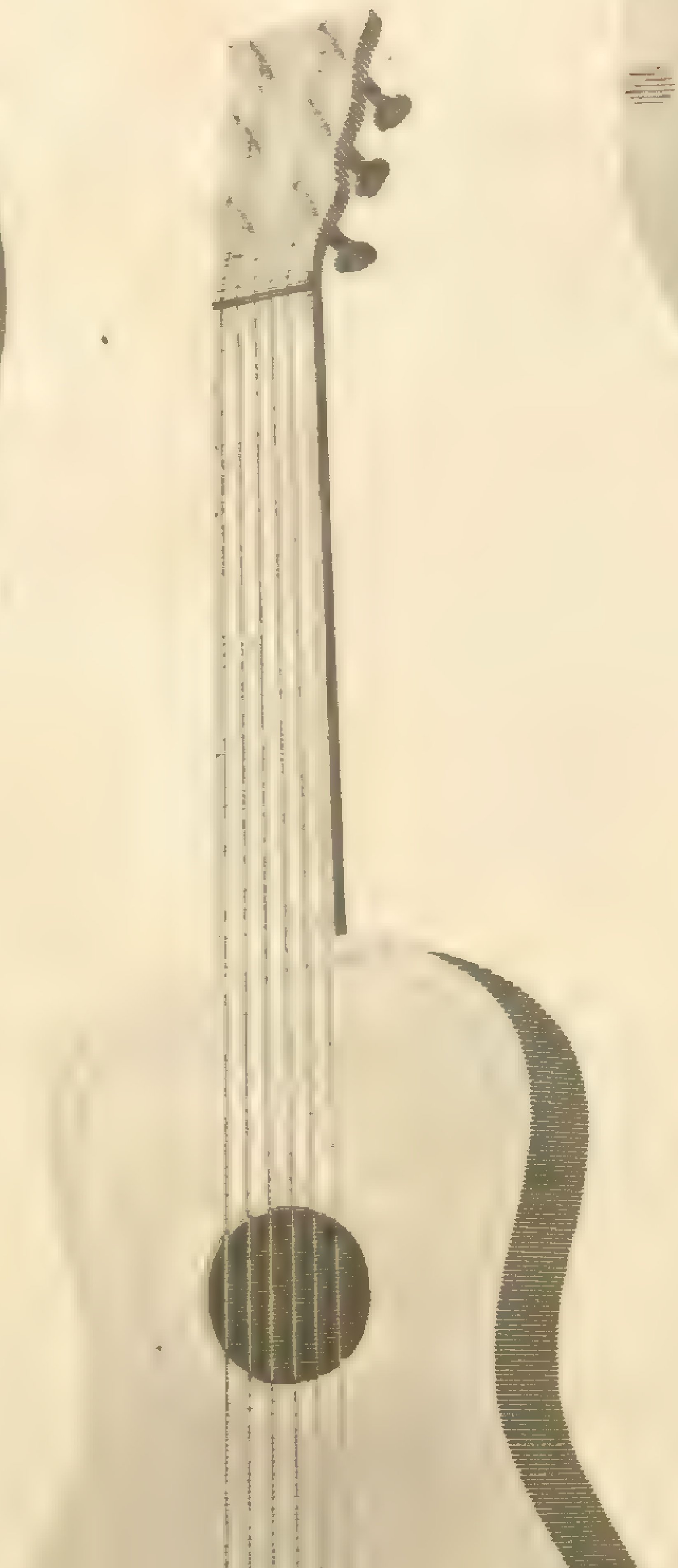


Fig. 3

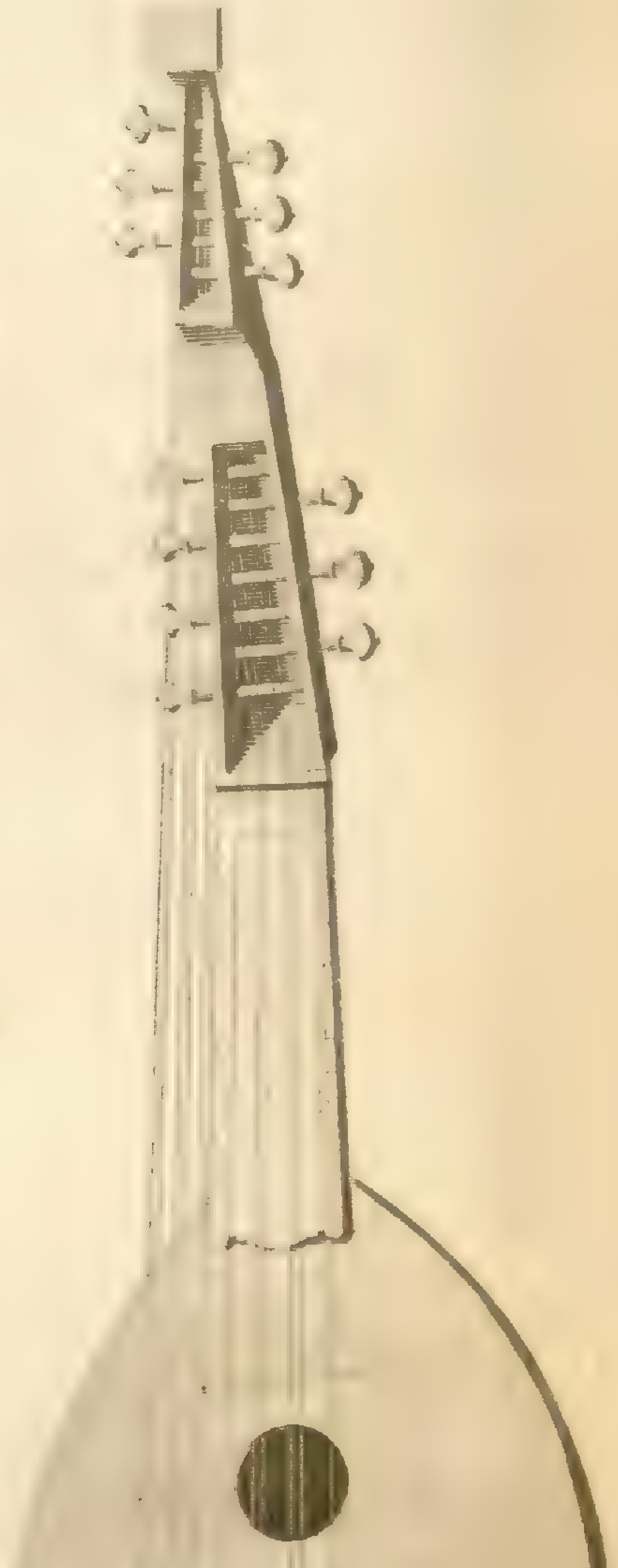


Fig. 4

		F	In
Fig. 1 Viol d. Amour	*height*	2	4
Fig. 2 Mandore			
Fig. 3 Spanish Guitar	*height*	3	1
Fig. 4 Lute		3	8

NAVAL ARCHITECTURE.
DRAUGHT OF A SHIP PROPOSED TO CARRY 74 GUNS.
DIMENSIONS &c.
Length on the Lower Deck 180 . 0
or the Keel for Tonnage 148 . 0
Breadth Extreme 48 . 8
Depth in Hold 19 . 9
Burthen in Tons, Builders Tonnage 1864
to carry on the
Gun Deck 28 32 Pounders
Upper Deck 30 24 d°
Quarter Deck 12 9 d°
Forecastle 4 9 d°
Total 74 Guns
BODY PLAN
AFTER BODY
FORE BODY
PERPENDICULAR VIEW of the STERN
TAFFAREL
SHEER PLAN
THE WAIST
CHANNEL WALE
MAIN WALES
RUDDER
HALF BREADTH PLAN
PLAN of the HEAD
SCALE

NAVAL ARCHITECTURE.

DISPOSITION OF THE FRAME

OF A SHIP OF 74 GUNS.

Published as the Act directs, June 1 1816, by Longman Hurst Rees Orme & Brown Paternoster Row.

NAVAL ARCHITECTURE.

PLATE

Published as the Act directs Nov. 1st 1810, by Longman Hurst, Rees, Orme & Brown, Paternoster Row.

NAVAL ARCHITECTURE.

PROFILE OF A SHIP OF 74 GUNS.

Inboard Works.

Published as the Act directs, Oct. 1st 1807, by Longman, Hurst, Rees & Orme, Paternoster Row.

NAVAL ARCHITECTURE.

PLANS OF A SHIP OF 74 GUNS.

PLAN OF THE GUN DECK.

PLAN OF THE ORLOP.

J. Glover del.

Published as the Act directs, Jan 1st 1807, by Longman Hurst Rees & Orme Paternoster Row.

Milton sc.

NAVAL ARCHITECTURE.

PLANS OF THE QUARTER-DECK, FORECASTLE AND UPPER-DECK, OF A 74 GUN SHIP.

Published as the Act directs, Jan.1st 1808, by Longman Hurst Rees & Orme Paternoster Row.

NAVAL ARCHITECTURE.

A SHIP OF 74 GUNS.

Published as the Act directs, May 1.1812. by Longman Hurst Rees Orme & Brown Paternoster Row.

NAVAL ARCHITECTURE.

A SHIP OF 74 GUNS.

PLATE VIII

Laying-off B.

Published as the Act directs May 1.1812 by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

NAVAL ARCHITECTURE.

A SHIP OF 74 GUNS &c.

Published as the Act directs [illegible] by Longman, Hurst, Rees, Orme, & Brown, Paternoster Row.

NAVAL ARCHITECTURE.

PLATE X
Laying off D

A SHIP OF 74 GUNS.

Glover del.

Published as the Act directs [illegible] by Longman, Hurst Rees, Orme & Brown, Paternoster Row

NAVAL ARCHITECTURE.

A FRIGATE OF 38 GUNS.

J. Glover del.

Published as the Act directs July 1. 1816. by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Milton sculp.

NAVAL ARCHITECTURE

An EAST INDIAMAN

PLATE XII

Glover del.

Published as the Act directs, Oct. 1. 1816, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Milton sculp.

NAVAL ARCHITECTURE.

ROYAL SOVEREIGN YACHT.

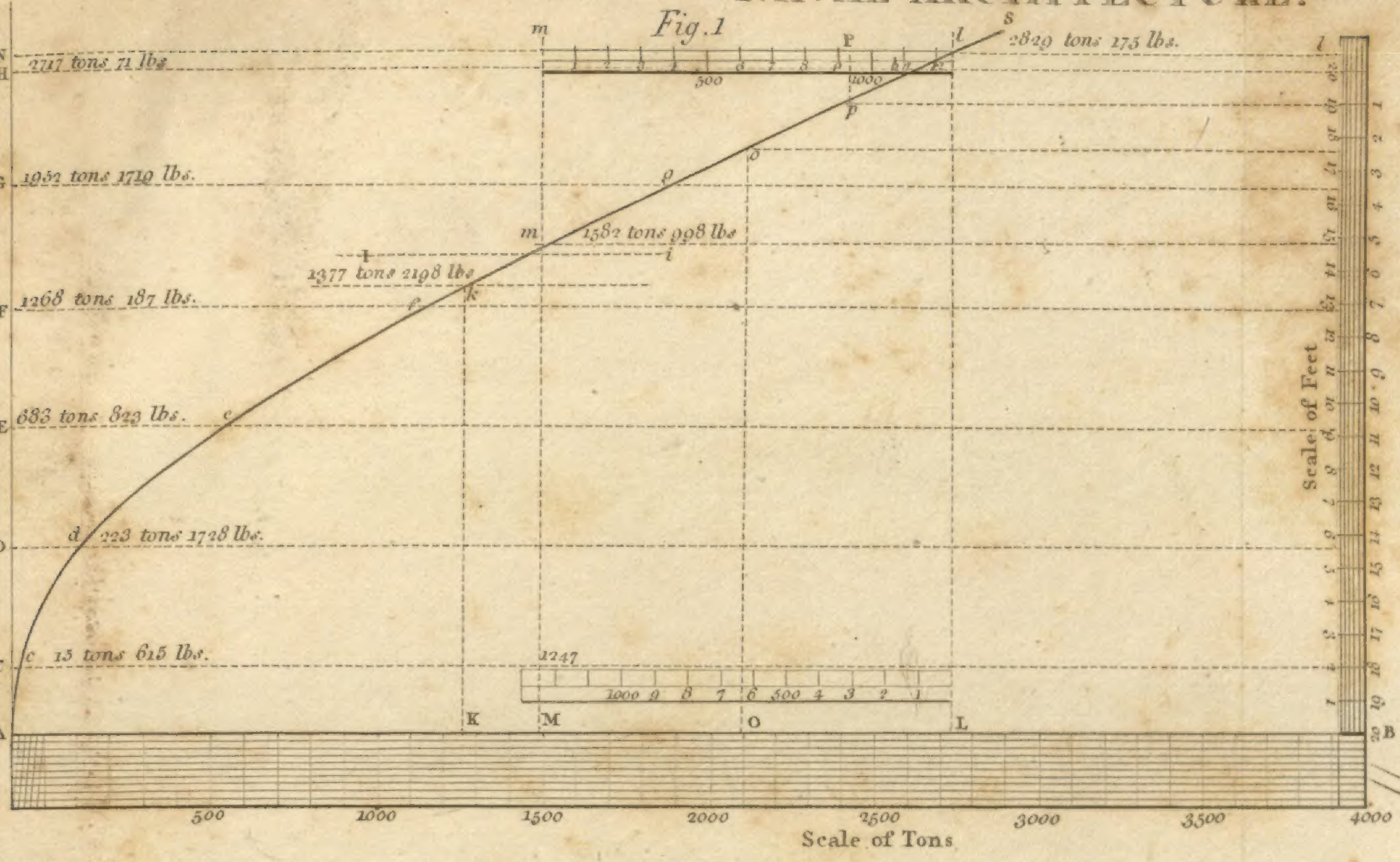
Launched in 1804.

DIMENSIONS

	Ft.	In.
Length on the range of the Deck	96	0
...... of the Keel for Tonnage	80	5
Breadth extreme	25	6
...... moulded	25	0
Depth in Hold	10	6
Burthen in Tons (Builders Tonnage)	278 $\frac{14}{94}$	

Published as the Act directs. Jan. 1. 1811. by Longman Hurst Rees Orme & Brown Paternoster Row.

Fig. 1



Hills Machine for drawing Bolts.

See Mechanics, direction of Motion, Pl. XXII. XXIII.

Fig. 4 Fig. 5 Fig. 6

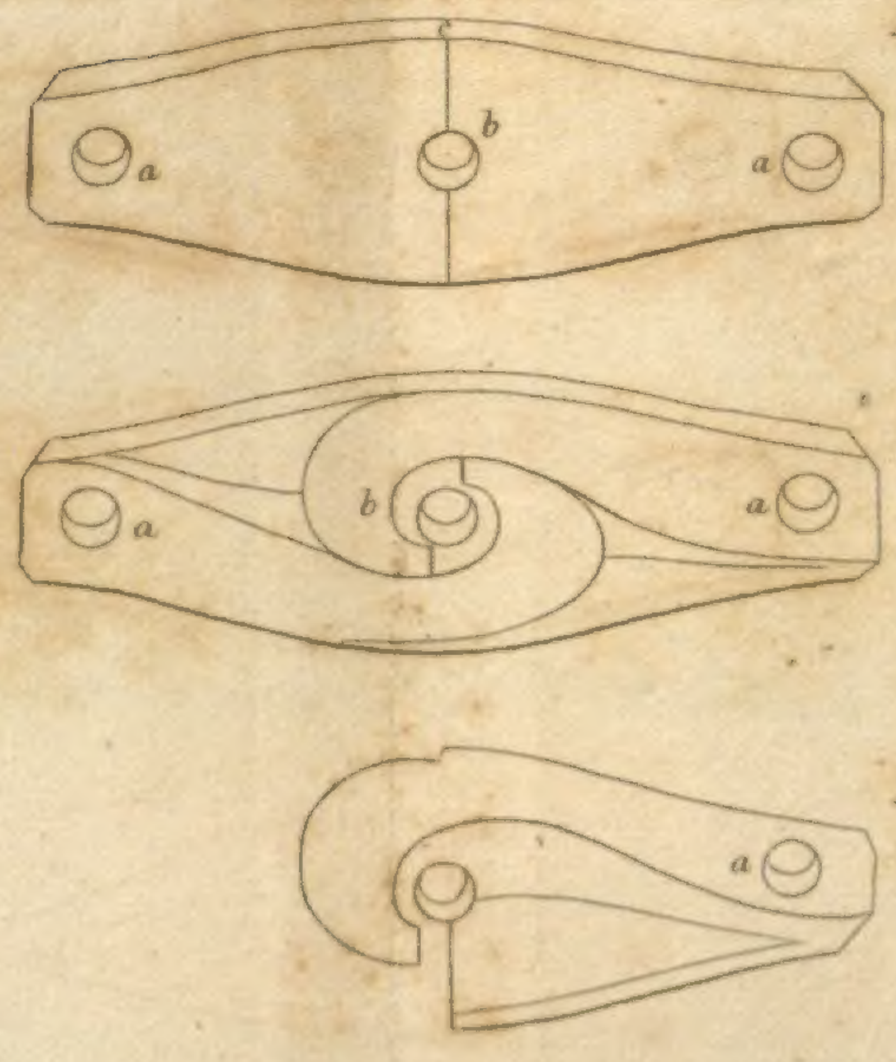


Fig. 3

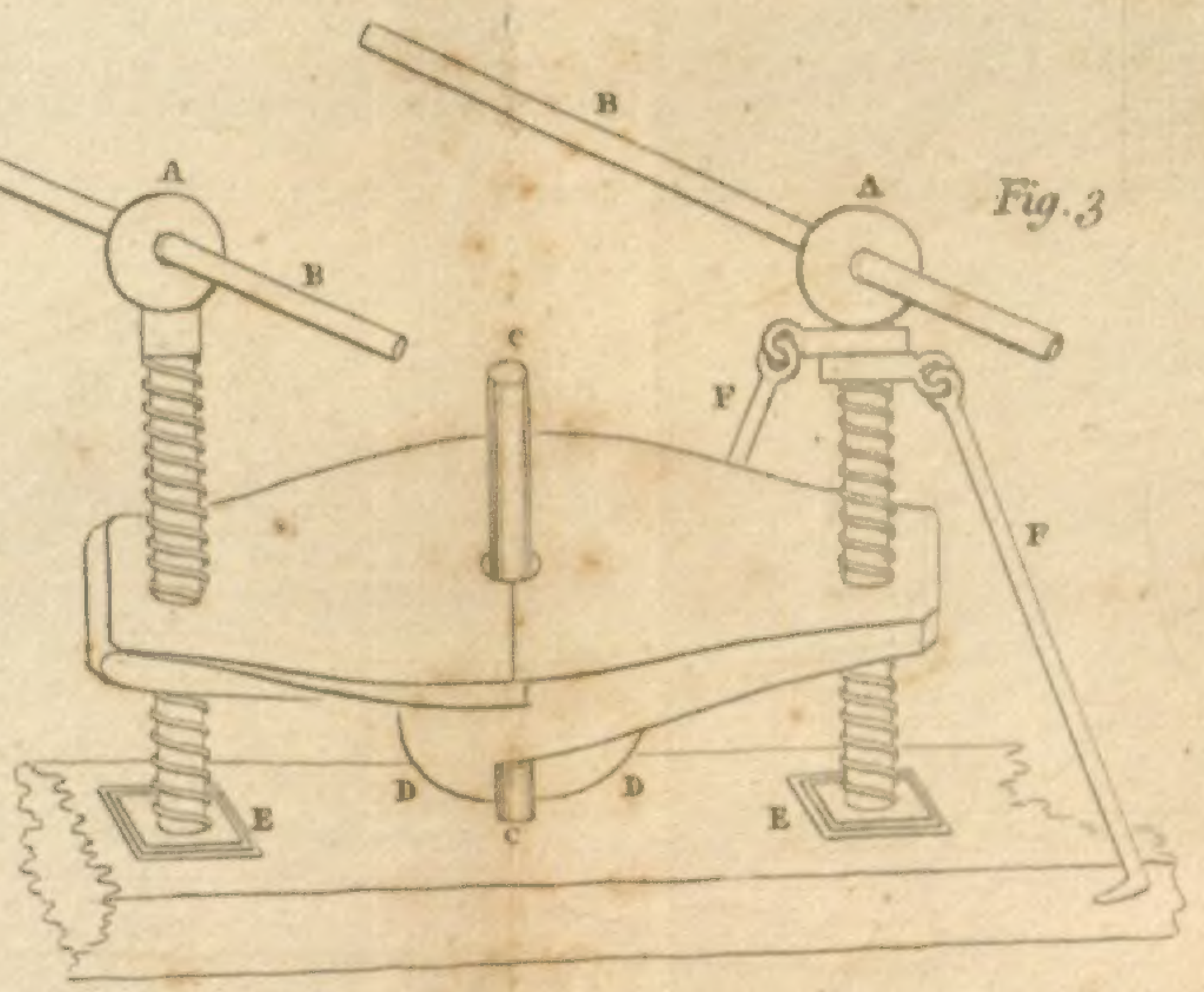


Fig. 2

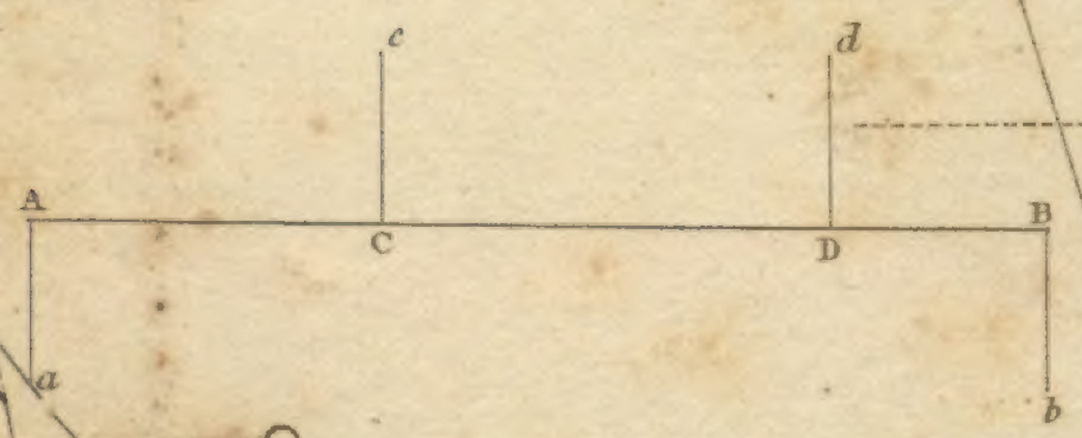
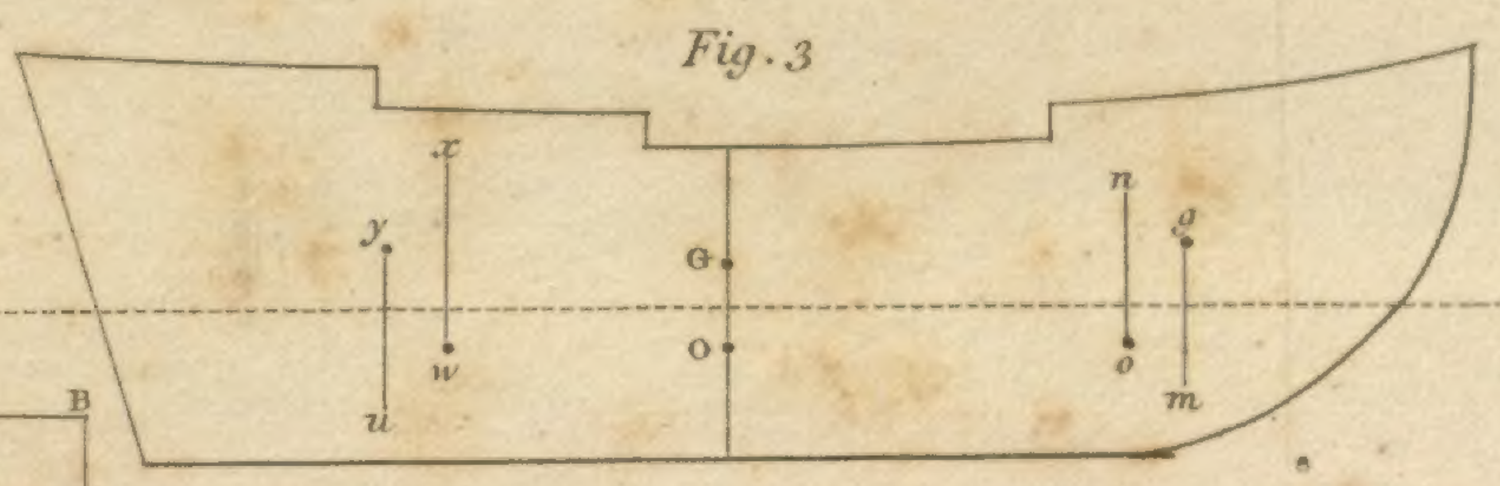


Fig. 3



WHOLE-MOULDING

Fig. 4

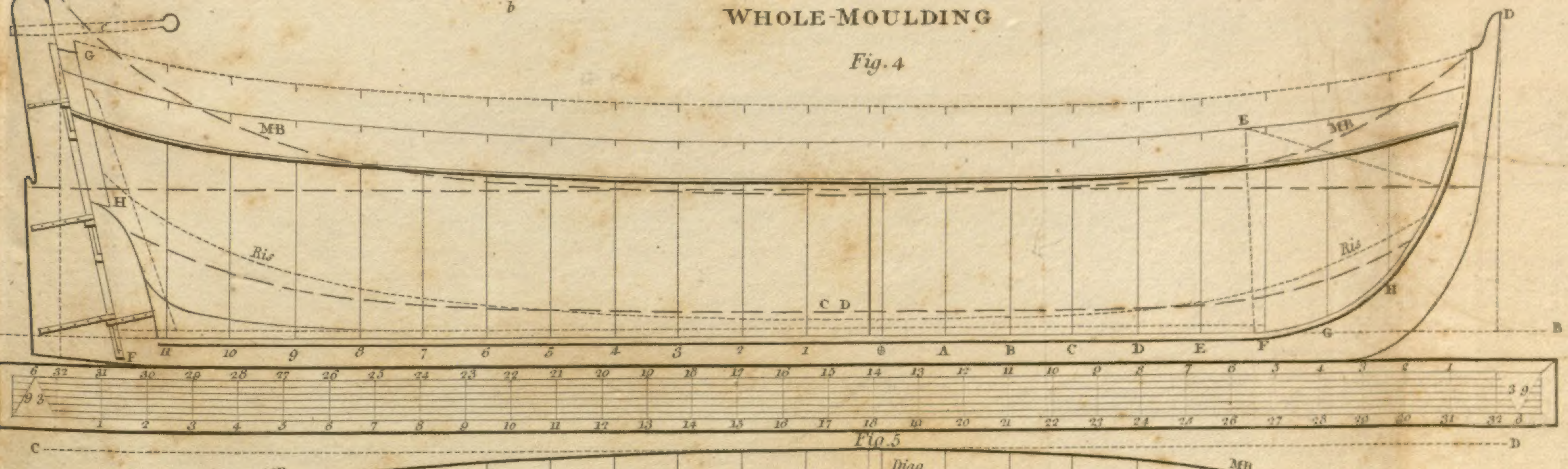


Fig. 5

Fig. 6

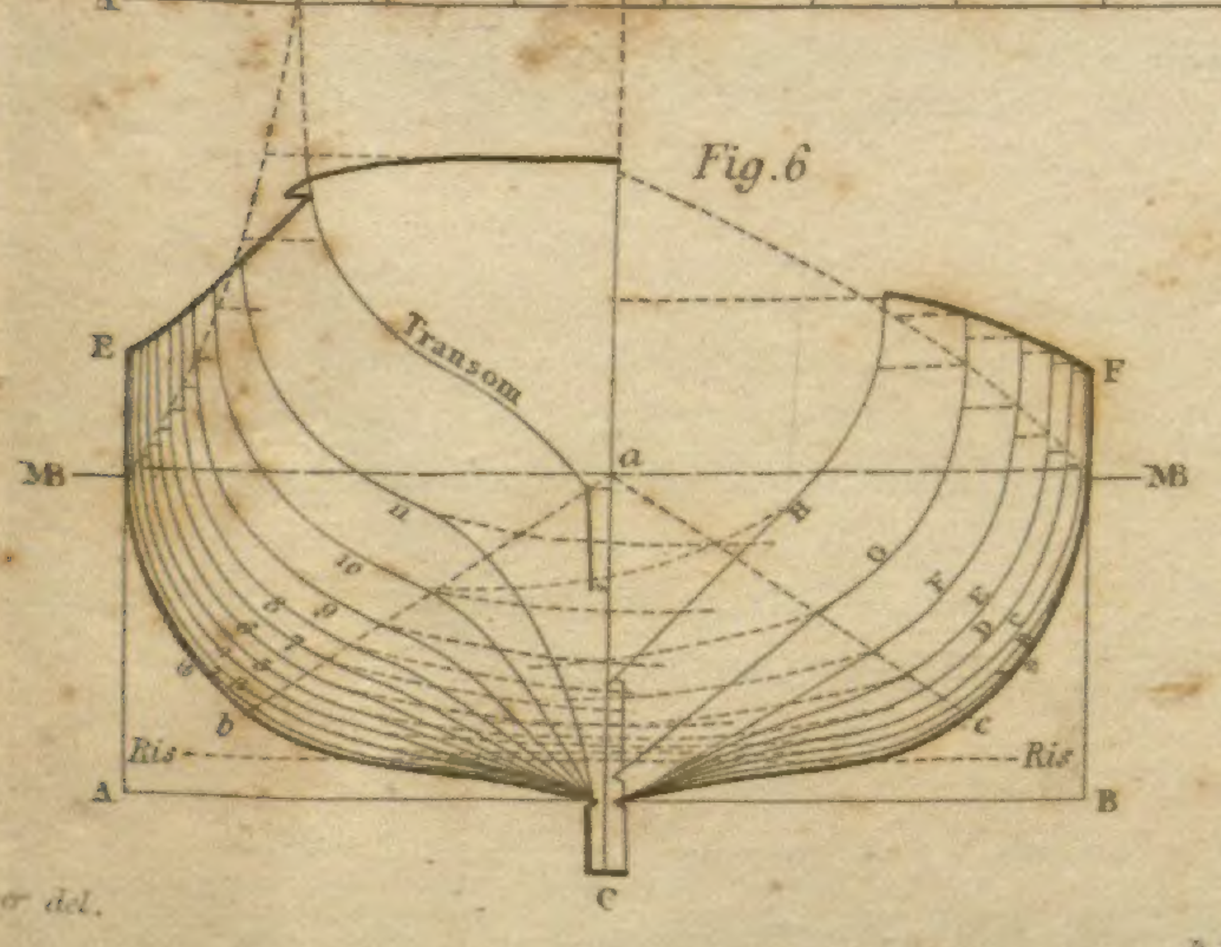


Fig. 7

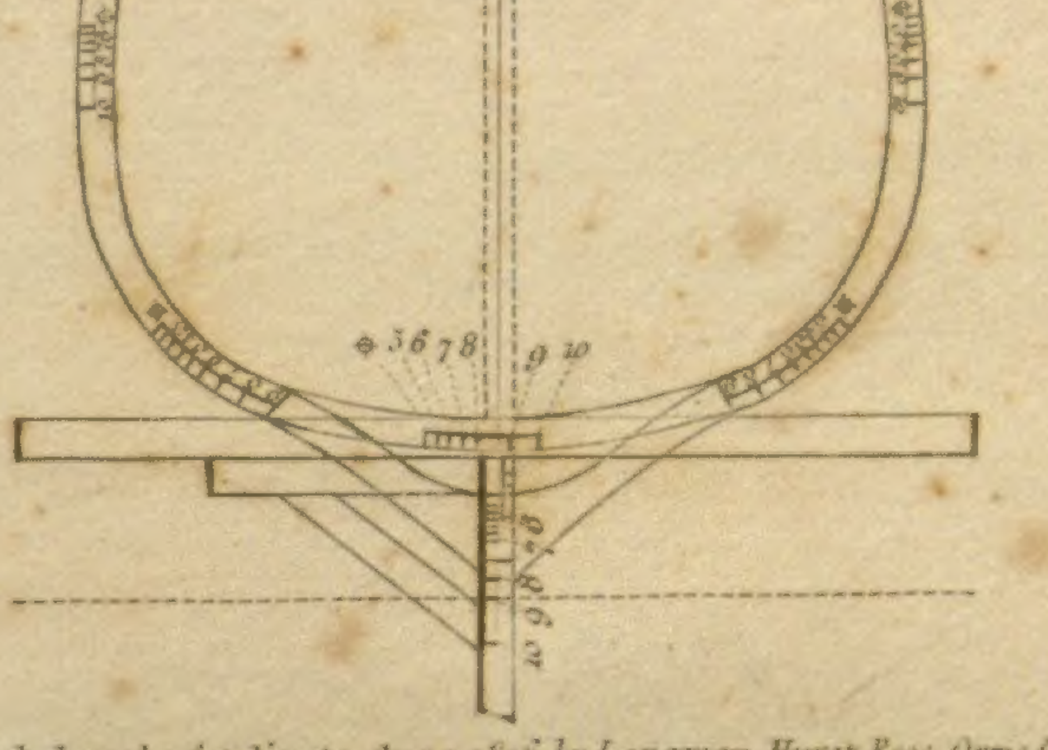
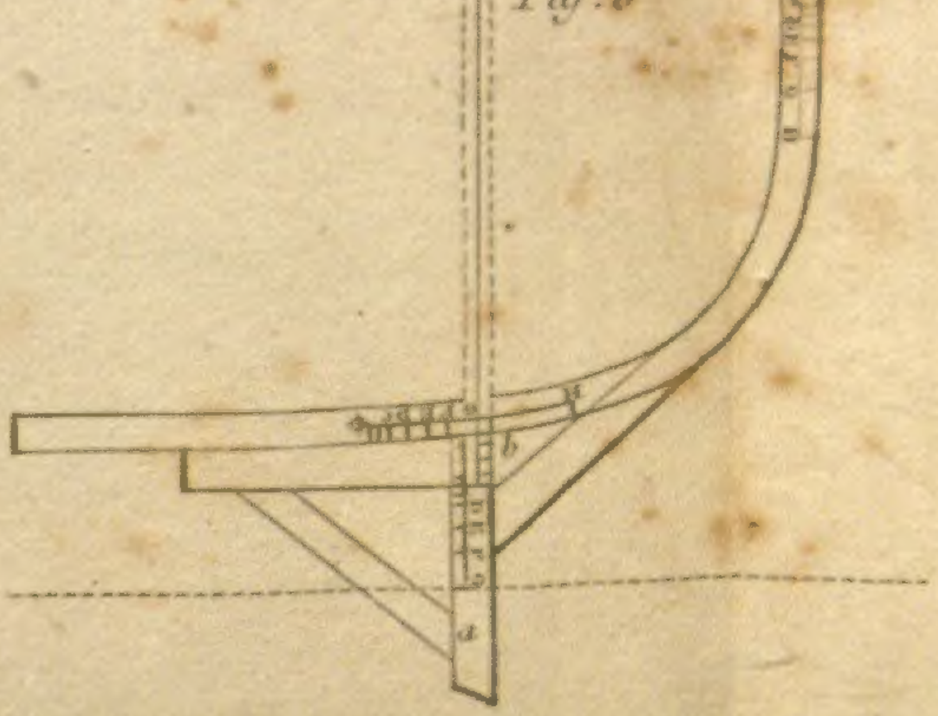


Fig. 8



... del. T. Milton sculp.

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